

APR 23 1932

MUSEUM LIBRARY

Old
Series,
Vol. LVII

CONTINUATION OF THE
BULLETIN OF THE NUTTALL ORNITHOLOGICAL CLUB

New
Series,
Vol. XLIX

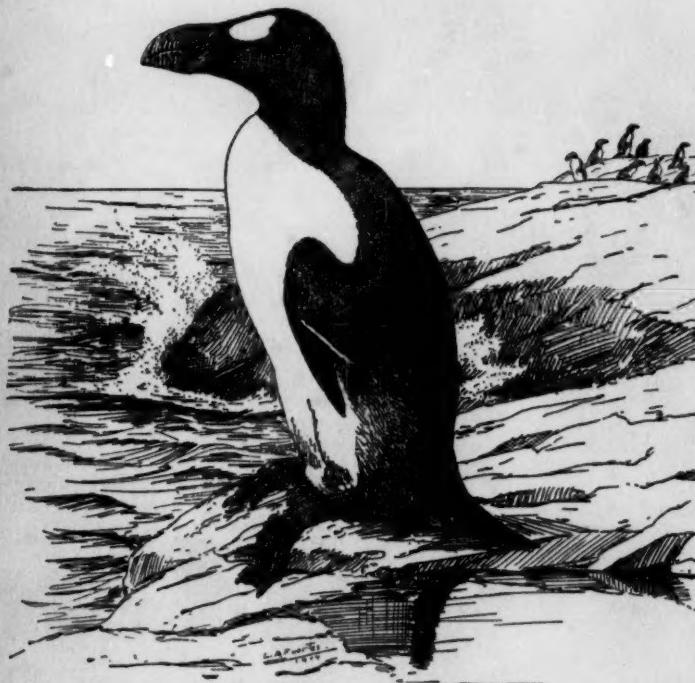
The Auk

A Quarterly Journal of Ornithology

Vol. XLIX

April, 1932

No. 2



PUBLISHED BY

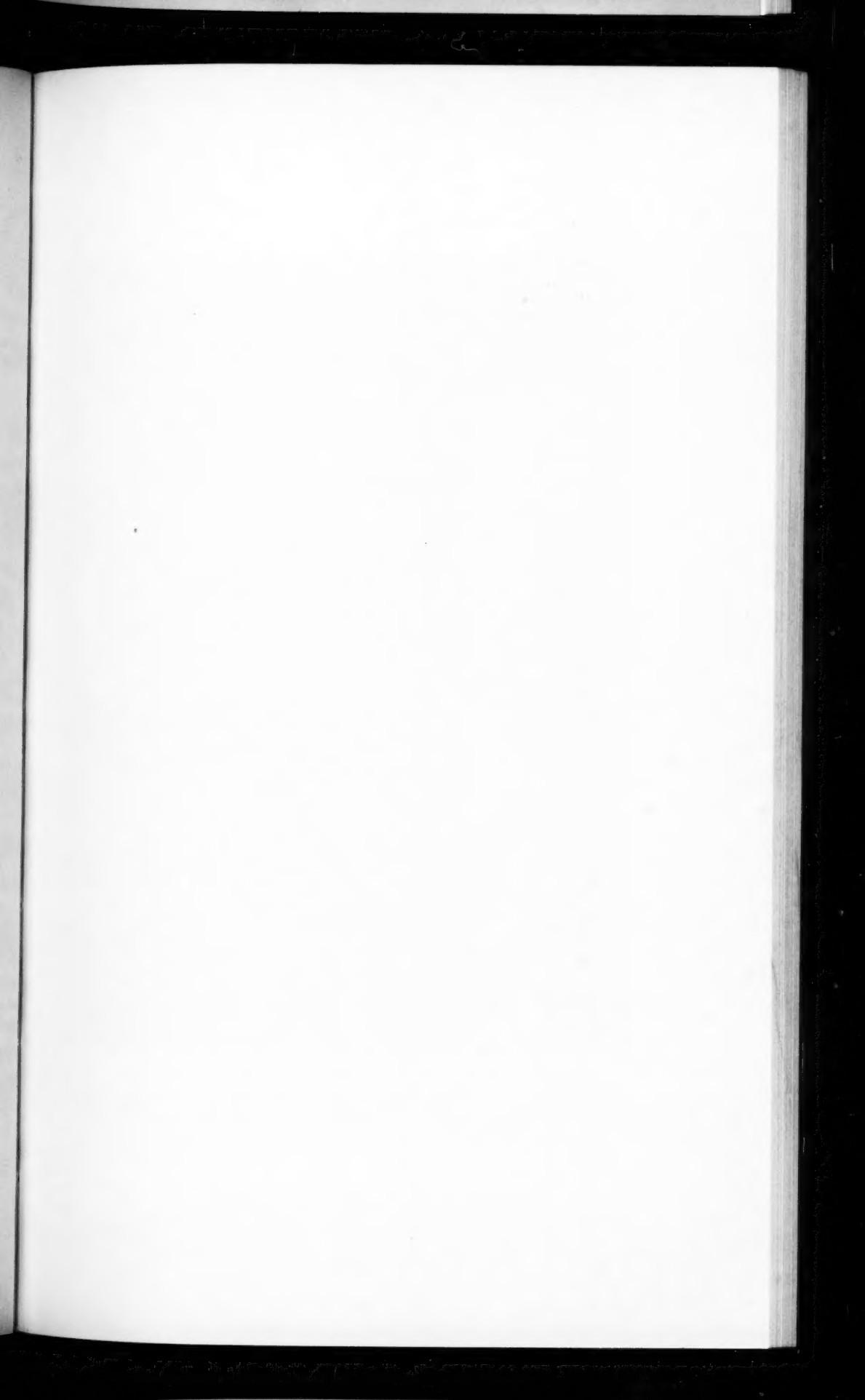
The American Ornithologists' Union

LANCASTER, PA.

Entered as second-class mail matter in the Post Office at Lancaster, Pa.

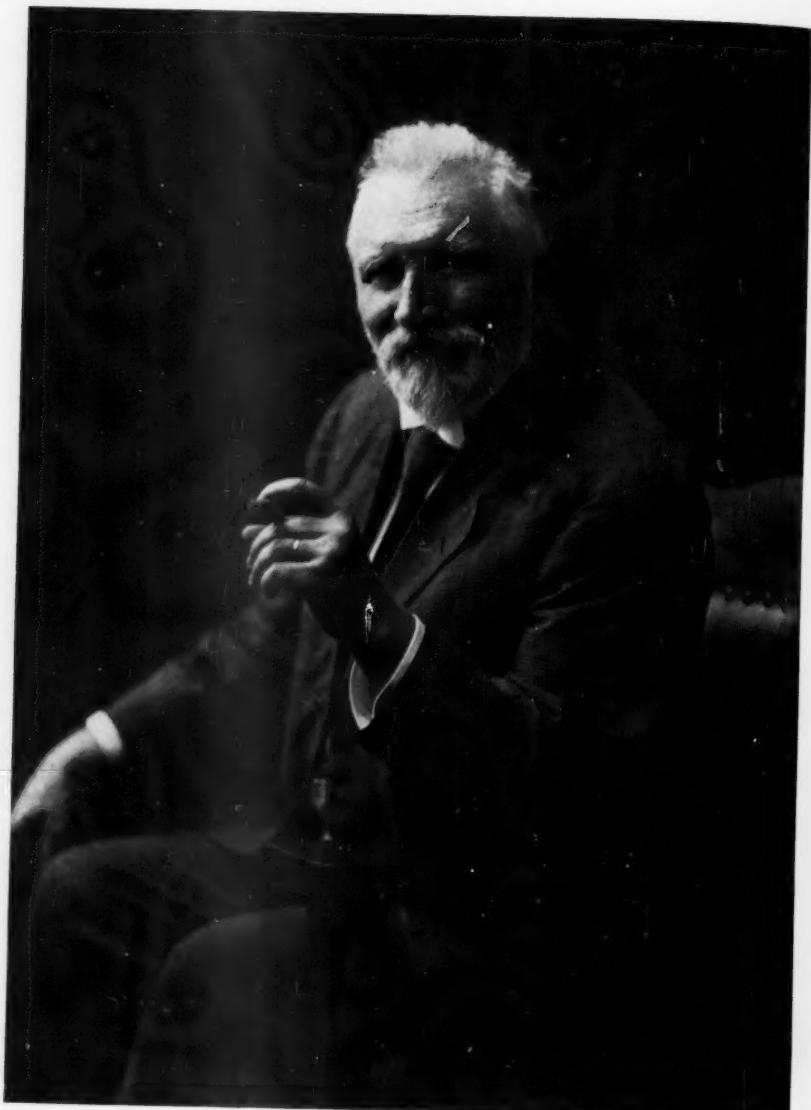
CONTENTS.

IN MEMORIAM: HENRY NEHRLING. By <i>Witmer Stone</i> . (Plate V)	153
THE ADVANTAGE OF CROSSED MANDIBLES: A NOTE ON THE AMERICAN RED CROSSBILL. By <i>C. A. Robbins</i>	159
NESTING OF HARRIS'S SPARROW (<i>Zonotrichia querula</i>) AT CHURCHILL, MANITOBA. By <i>John Bonner Semple</i> and <i>George Miksch Sutton</i> . (Plates VI-VIII)	166
BIRDS OBSERVED FROM SHIPBOARD IN CROSSING THE NORTH ATLANTIC. By <i>F. B. Hult</i>	184
THE BREEDING OF THE BLUE-WINGED TEAL IN MARYLAND. By <i>O. L. Austin, Jr.</i>	191
NOTES ON IMAGINARY SPECIES OF RAMPHOCELUS. By <i>Ludlow Griscom</i>	199
A NOTE ON THE FOOD OF THE HUNGARIAN PARTRIDGE. By <i>Leon Kelso</i>	204
SONG SPARROWS OF MICHIGAN. By <i>William G. Fargo</i>	208
GENERAL NOTES.—Destruction of Petrels by Cats, 212; Eastern Brown Pelican on the South Carolina Coast in Winter, 212; Anhinga Nesting in North Carolina, 213; Mute Swan in New Jersey, 213; A Greater Snow Goose from Georgia, 213; The Downy Young of Some Foreign Species of Ducks and Geese, 214; Blue-winged Teal Nesting in New Jersey, 215; Returns from Banded Mallards, 216; A Gyrfalcon at Sault Ste. Marie, 216; White Gyrfalcon at Wayland, Mass., 217; Another Golden Eagle Captured in Georgia, 217; Sex of Incubating Killdeers, 218; Breeding Willet in New Jersey, 218; Brunnich's Murre in Southern New Jersey, 219; An Albino Puffin, 219; A Sooty Tern from Georgia, 219; Eggs of Royal Tern in Laughing Gull's Nest, 219; Franklin's Gull at Madison, Wisconsin, 220; Pomarine Jaegers off Key West, Florida, 220; Late Nesting of Barn Owl, 221; A Snowy Owl Record for 1932, in Columbiania County, Ohio, 221; Eastern Whip-poor-will Wintering in Alabama, 221; A Sun-bathing Hummingbird, 221; Crested Flycatchers in Ohio in Mid-November, 222; Late Occurrence of the Barn Swallow in New Brunswick, 222; Blue Jays Gathering Twigs for Nests, 223; Northern Raven in New Jersey, 223; Carolina Wrens Roosting in Abandoned Hornets' Nests, 223; A Hornet-Wren Nest, 224; A Late Fall Occurrence of the Wood Thrush in Cheshire County, New Hampshire, 224; The Bohemian Waxwing in Ohio, 225; Occurrence of the European Starling in the James Bay Region, 225; The Black and White Warbler on the South Carolina Coast in Winter, 225; Cerulean Warbler in North Dakota, 226; Wilson's Warbler in Western Virginia, 226; A Winter Record of the Meadowlark in Cheshire County, New Hampshire, 226; The Giant Red-wing in Ohio, 227; Yellow-eyed Boat-tailed Grackles Again, 227; Color of the Iris of the Boat-tailed Grackle in Virginia, 227; Further Notes on the Iris of the Boat-tailed Grackle, 227; The Bronzed Grackle in Lincoln County, Montana, 228; Cardinal at Woodserville, New Hampshire, 228; Common Redpoll Collected in Northern Ohio, 229; The Migration and Winter Range of the Labrador Savannah Sparrow, 229; The Sharp-tailed Sparrows of Maryland, 231; Western Field Sparrow in Northwestern Montana, 231; Notes from Northampton, Mass., 232; Some Recent Records from Reading, Pennsylvania, 233; Summer Bird Associations on Great Lakes Islands, 235; Some Notes from Southern Florida, 236; Notes from Logan, Utah, 237; Some Emendations to the Ranges of the New Check-List, 237.	
RECENT LITERATURE.—Howell's 'Florida Bird Life,' 240; Chapman's 'Hand-book'—Revised, 242; Bannerman's 'Birds of Tropical West Africa,' 244; Martorelli's 'Birds of Italy,' 244; Wetmore on Birds, 245; Chapman on the Bird-life of Mts. Roraima and Duida, 245; Pickwell on the Prairie Horned Lark, 247; Bowen's Catalogue of Sudan Birds, 248; La Touche's 'Birds of East China,' 248; Chisholm's 'Nature Fantasy in Australia,' 248; Townsend's 'From Panama to Patagonia,' 249; Delacour and Jabouille: 'Les Oiseaux de l'Indochine Francaise,' 250; Swann and Wetmore: 'A Monograph of the Birds of Prey,' 251; Buick's 'The Mystery of the Moa,' 252; Hortling's 'Handbook of the Birds of Finland,' 252; Shorter Papers, 253; The Ornithological Journals, 260.	
OBITUARIES.—John Eugene Law, 268; Julius von Madarasz, 269; Albert Hartson Boies, 271; Daniel Chester French, 271; Charles Elliot Underdown, 272; Arthur Thomas Goodson, 273; Stolzmann's Full Name, 273.	
NOTES AND NEWS.—The Quebec Meeting of the A. O. U., 274; Financing 'The Auk,' 274; The Poison Problem Again, 275; Dr. Steere's Ninetieth Birthday, 277; Preservation of Audubon's House, 277; The Tropical Everglades National Park, 277; The Jack Miner Sanctuary, 278; Ernest G. Holt—Personal Mention, 278; Tenth Annual Meeting of the Inland Bird Banding Association, 278; Annual Meeting of the Delaware Valley Ornithological Club, 278; A Call for Back Numbers of 'The Auk,' 278.	



THE AUK, VOL. XLIX

PLATE V.



H. H.uhningi

THE AUK:

A QUARTERLY JOURNAL OF
ORNITHOLOGY.

VOL. XLIX.

APRIL, 1932.

No. 2

IN MEMORIAM—HENRY NEHRLING. 1853–1929.

BY WITMER STONE.

Plate V.

ON September 26, 1883, twenty-one ornithologists met in New York City to organize the American Ornithologist's Union. Two who had been prominent in the preliminary arrangements but who were unable to be present were enrolled among the founders and twenty-four additional Active Members were chosen from those known personally to the founders or from their published ornithological works. Among these was Henry Nehrling then living in the state of Missouri.

Of the Founders only five survive today and of the additional Active Members only six, so that in length of membership, Henry Nehrling with his forty-six years in the ranks of the A. O. U. stood close to the top of the list—a record of loyalty to our Society of which he might well have been proud, especially when we consider the few opportunities that he enjoyed of personal contact with his fellow members. Indeed so far as I can ascertain he attended but one meeting of the Union and while personally known to Dr. Merriam and probably to Mr. Ridgway and others his visits to the ornithological centers of the East seem to have been few indeed.

Henry Nehrling was born of German-American parentage in the town of Herman, near Howard's Grove, Sheboygan County, Wisconsin, on May 9, 1853. His father was Carl Nehrling and his mother Elizabeth Ruge. His early education he received from his mother and grandfather and he was later sent to a Lutheran

parochial school located several miles from his home. His daily walks winter and summer to and from school, through the then primeval forest, familiarized him with every aspect of nature and helped to develop the passionate love for the out-doors—the birds and flowers, that characterized his entire life. He soon learned the haunts of the wild things of the woods and fields—where the Wild Pigeons roosted, where the Grouse had its drumming log and where grew the rarer plants.

From 1869 to 1873 he attended the State Normal School at Addison, Illinois, and upon graduation became a teacher in the Lutheran schools, a position which he held until 1887, teaching at various places in Illinois, Missouri and Texas. It has been said, probably with much truth, that he looked upon his teaching mainly as an instrument by means of which he could carry on his studies of ornithology, and the changes from one locality to another added constantly to the breadth of his knowledge of bird life. During all this time he was accumulating data on the life-histories of North American birds and was publishing articles in popular magazines both in this country and in Germany, while a paper in the 'Bulletin of the Nuttall Club' presented his observations on the birds of parts of Texas about which comparatively little was known at that time. His studies of our native birds culminated with the appearance, in 1889, of the first part of a pretentious work published simultaneously in German and English and dealing with the life histories of our familiar species. This work, a prospectus of which appeared in 1886, was apparently originally planned as a publication in German only, 'Die Nordamerikanische Vögelwelt,' but by the time of the appearance of the first part an English edition had been added under the title of 'North American Birds,' which, when the twelve parts constituting Vol. I were completed (1893), was changed to 'Our Native Birds of Song and Beauty.' Volume II was completed in 1897. The author tells us that the work "is intended to fill the gap between the very expensive and the merely technical ornithological books" and "to combine accuracy and reliability of biography with a minimum of technical description." The need for such a work was deeply impressed upon him when, as a boy, he craved a book that would tell him about the birds he saw everywhere about him but a

book that could be purchased with the limited means at his disposal.

Dr. Elliott Coues praised Nehrling's work very highly in his several reviews in "The Auk" and concludes with congratulations on a "work which departs so widely from the average of its kind by making so near an approach to such as Audubon typifies."

That he succeeded in fulfilling the promise of his prospectus is evident to anyone who reads his volumes and they show how thoroughly he knew his birds and how deeply he appreciated the beauties of nature. Unfortunately Nehrling's work does not seem to be so generally known as it should be, possibly on account of a limited edition and lack of publicity. It is really an outstanding title in the literature of American ornithology and should be read by all who delight in pleasing descriptions of bird life and pen pictures of nature in her varied moods. Robert Ridgway made paintings for some of the plates while others were by two German artists, Prof. A. Goering and Gustav Muetzel. The heavy paper with ornamental borders and the sumptuous gold lettered morocco binding are characteristic of the German style in such matters.

In 1887 Nehrling was made deputy collector and inspector of customs at the port of Milwaukee a position which he held until 1890 when he was appointed secretary and custodian of the Public Museum of Milwaukee, a post evidently much more to his liking. During his connection with the museum a former member of his staff states that "he made many important additions to the collections and laid the foundations for the future greatness and educational usefulness of this well known institution." Unfortunately owing to politics Nehrling lost his position in 1903 after twelve years of unselfish service.

As early as 1884 Mr. Nehrling had bought a tract of land at Gotha, Florida, not far from Orlando. He first visited it in 1886 and from that time seemed to have definitely fixed upon Florida as his future permanent home.

Thither, then, he moved in 1904 after a brief association with the Philadelphia Commercial Museum, an association notable particularly for the fact that the American Ornithologists' Union met in Philadelphia in the autumn of 1903 and Nehrling enjoyed

the opportunity for the first time of attending a meeting of the Society of which he had been a member for so many years. It was during this period that I made his acquaintance and much of his time was spent in the bird room at the Academy of Natural Sciences studying the collection—a friendship developing which has always been one of the pleasant memories of my life.

While always a lover of flowers, even from his early boyhood, Nehrling apparently did not seriously take up horticulture until the time of his residence in Milwaukee where he built a greenhouse and devoted his spare time to the rearing of tropical plants, especially species of Amaryllis of which he produced many new horticultural varieties.

The exhibit of tropical plants at the Chicago Exposition was a great delight to him, especially the palms and Caladiums, and the cultivation and breeding of the latter became one of his hobbies when he removed to Florida. Here on his place at Gotha he developed a wonderful botanic garden and entered into correspondence with horticulturists in all parts of the world securing seeds of rare tropical species for raising and writing many articles on plant breeding for magazines and newspapers, as well as a volume on the Amaryllis which remained one of his favorite plants. In his experiments with the Caladiums he produced many new and beautiful varieties as a result of long and patient effort. It has been remarked that people are too prone to take the results of the horticulturists' work as a matter of course without any realization of the patience, industry and thought which go into the breeding of new varieties, and few probably realized the devotion of Nehrling to his hobby nor the extent of his knowledge of the subject.

Free to enjoy the practice of his favorite pastime and surrounded by the beauties of semitropical nature one might have thought Nehrling's life one of complete happiness but unfortunately, like many another gifted scientist, he lacked the business sense necessary for material success and absolutely honest himself took honesty for granted in others. The result was that he was often the victim of the unscrupulous and his life was frequently beset by financial difficulties. Indeed it is to wormit over these that the breakdown in health which resulted in his death is attributed.

His most disastrous experience occurred only three years before his death. He had been induced to combine with others of whom he knew but little in the formation of a nursery at Siebring, Florida, and all of his collections of living plants were removed to this site. He was to receive a handsome salary as president of the company and other perquisites but, when the salary suddenly ceased and investigation was made, it developed that his agreements were mainly verbal, and he had few written guarantees or legal claims. Broken in spirit, he returned to Gotha where he died on November 22, 1929.

In consideration of his outstanding knowledge of horticulture, Nehrling had been appointed a collaborator in the Bureau of Plant Industry of the U. S. Department of Agriculture as early as 1906. At the Garden Club convention at Miami, in March 1929, he was awarded the Meyer Medal for distinguished service in his chosen field, a tribute that brought tears of gratitude to his eyes as in faltering tones he expressed his appreciation.

The life of Henry Nehrling was one wholly devoted to science but always to out-door science and contact with living things, rather than to the technical research of the closet naturalist. It was also pretty evenly divided between his two consuming interests —ornithology and horticulture and, to use the terms of the breeders of plants and animals, the former was the dominant factor in his earlier years and the latter in the closing period of his long and useful career.

On July 20, 1874, about a year after graduation, Nehrling married Miss Sophia Achoff of Oak Park, Illinois. They were blessed with a family of seven children, the eldest son Walter Nehrling, following his father's footsteps and becoming professor of botany in the Illinois State Normal School.

From the wide circle of Mr. Nehrling's acquaintances one hears only the highest praise of his personal character. "Above all" writes Mr. A. H. Andrews, of Estero, Florida, "Dr. Nehrling was intensely human, being a man of genial and kindly disposition, as only a real lover of nature can be. A typical German professor of the old school, of courtly manner and enthusiastically absorbed in his work, he made a host of warm friends and was as pleased as a child when visitors admired his garden."

Dr. David Fairchild writes me: "He was always a naturalist at heart,—reminding me of what I imagined Fritz Mueller of Blumenau, Brazil, was like. A plant savant—and how few others are left!—men who love plants with a passion that is delightful to see. His life was filled with financial worries but it had also a great deal of real pleasure in it for he was always playing with things he adored. His Caladiums, his bromeliads, his palms, bamboos and ficus filled his days with a busy kind of pleasure."

Henry Nehrling's ornithological knowledge is already placed on permanent record in his 'Native Birds of Song and Beauty' and the publication of his contributions to horticulture, which we understand is contemplated would preserve for posterity the accomplishments in this field also, of the gentle, kindly scholar who labored so long and so successfully in interpreting nature and in adding to the knowledge and the pleasure of mankind.

*The Academy of Natural Sciences,
of Philadelphia.*

THE ADVANTAGE OF CROSSED MANDIBLES: A NOTE
ON THE AMERICAN RED CROSSBILL.

BY C. A. ROBBINS.

PROBABLY many who have watched Crossbills feeding on the fruit of our coniferous trees, straining and prying at the cones in order to reach the seeds, have wondered at the peculiarly formed beak which proves so fitted for the work it is called upon to do. Clearly, the crossed bill must possess some advantage over the common type, else it is difficult to understand its persistence. But how does it perform its work and what advantage has it?

Most writers, in dealing with these birds, confine the account to their habits; some describe, more or less fully, the construction of the bill, but have little or nothing to say as to how it is used; still others, manifestly reasoning from structure to function, plunge boldly into speculations which seem plausible enough until the facts are known.

Thus Audubon (*Orn. Biol.*, Vol. 2), writing of the "Common Crossbill," says: "Nothing can exceed the dexterity with which they extricate the seeds from the cones with their bill, the point of the upper mandible of which they employ as a hook, placing it at the base of the seed, and drawing it up with a sudden jerk of the head." Langille (*Our Birds in Their Haunts*) goes farther and attributes this action to both mandibles! Even so painstaking and trustworthy a writer as Coues (*Key*, ed. 4, p. 348), appears, in this instance, to have arrived at his conclusions in the same way; for whether or not the bill constitutes a "handy tool for cracking nuts of some kinds and shelling out their kernels" and aside from the rather dubious statement that it "acts like a pair of cutting pliers,—pincers and scissors in one" it certainly is not used (unaided, at any rate) to "skilfully husk" pine seeds out of their cones.

Two years after Audubon advanced his ingenious explanation and over fifty years before Coues published his '*Key*,' an edition¹

¹ White, Rev. Gilbert, M.A. *The Natural History and Antiquities of Selborne. A New Edition; with Notes, by Edward Turner Bennett.* London. 1836.

of Gilbert White's 'Selborne' was published containing a footnote in which is given a detailed account of the functions of the Crossbill's singular equipment written by William Yarrell (a friend of the editor) and previously published "in the fourth volume of the Zoological Journal." Although the account has reference to the European bird, it applies equally well to our species. It seems surprising that so interesting an observation applicable to one of our common birds should have been so completely overlooked.

In April, 1917, an exceptional opportunity was afforded Dr. Windsor M. Tyler and me to observe one of our birds at work, and although the experience did not permit us to see all the minute details described by Yarrell, it made plain the chief part which the bill plays in securing the seeds. I have ventured to outline the process, as it was illustrated to us, not only because, by so doing, an obviously obscure subject is cleared up, but also because,—our experience being mainly corroborative,—the credit for the really important discovery will thus be given, after all these years, where it belongs.

Our bird, a male American Crossbill (*Loxia curvirostra minor*) was brought me by a neighbor, who had found him lying dazed in the street, the result, possibly, of having struck against overhead wires, or perhaps more likely still, against an automobile, since he proved to be unhurt and in a few hours had recovered sufficiently from his bewildered condition to fly about and help himself to food.

We kept him four days, giving him the freedom of a small, unused back-room and feeding him chiefly on suet. On the second day branches of pitch pine (*Pinus rigida*), bearing unopened cones, were gathered. These were placed over the stove until the heat had caused the cones to open. The branches were then nailed to the side of a "dry-sink" which stood in a corner of his new quarters. His attention was immediately attracted and almost as soon as the last nail was driven he had become busy with the cones, prying their scales apart and extracting the seeds which lay between. Like many of his kind, he was surprisingly fearless; indeed, so little did our presence disturb him that we were able to watch him, whenever he fed, as closely as we wished,

often from a distance no greater than is required to read ordinary print.

Before going further it may be needful to explain that the seeds of all conifers are borne at the base of rigid, woody scales which are attached to a central axis and arranged in alternating, overlapping rows, forming the cone. Until mature, they are protected by the tightly closed scales, but when fully ripened, the scales, sooner or later, separate and allow them, as they loosen from their seats, to drop out or be shaken out and distributed by the wind. In this section of southern Massachusetts, the pitch pine is one of the most common trees; groves of it cover extensive tracts, and it is also plentifully mixed with other growth. Its seeds, often produced very abundantly, are sought after by many birds. Besides the Crossbills,—who come to us irregularly and in varying numbers and who feed largely, if not entirely, upon them,—Chickadees are especially fond of them; so are Red-breasted Nuthatches and Goldfinches. Pine Siskins and Redpolls also take them commonly; Juncos not infrequently, and Tree Sparrows occasionally.¹ There are thus many birds who feed, more or less, upon these seeds and who are, unquestionably, able to obtain them easily, without the specialized organs which the Crossbill possesses. Nevertheless, there is this difference; all these other birds pick the seeds out *with the bill* and as the act requires considerable room between the scales, it is possible only with such cones as happen to be widely open.

The Crossbill, on the other hand, is not thus restricted; nor is his manner of securing them the same. Briefly, his method, plainly shown us by our bird, involves the use of *two* appliances; *the bill*, which forces and holds apart the scales; and *the tongue*, which lifts the seeds out.

So far as this essential fact is concerned, our experience, is in perfect accord with the testimony of Yarrell. If we try, however, to apply to our birds and cones his description of the minor actions employed in the operation, we meet with difficulties. According to Yarrell's account, after the birds have fixed themselves across

¹ The importance of these trees in contributing to the food supply of our wintering birds is often underestimated. Observers who live in localities where this, or other cone-bearers are common, would find it interesting to list the various species of birds which depend, in any degree, upon them.

the cones "they bring the points of the maxillae from their crossed or lateral position to be immediately over each other. In this reduced compass they insinuate their beaks between the scales; and then opening them not in the usual manner, but by drawing the inferior maxilla sideways, force open the scales."

Now, in respect to our birds, at least, it is not easy to see how the compass of the bill would be greatly reduced by bringing the crossed tips together; but assuming this to be the case, and assuming further, that in this condition it is insinuated between the scales, it is evident that the insinuation must be sidewise; that is, the sides of the bill must, necessarily, lie against the opposite scales; hence (applying the action to one of our pine-cones) one or the other mandible, according to the position of the bird, can hardly fail to rest upon the wings of the very seeds he is after. To add to this difficulty, he now (according to the description) exerts, with the lower mandible, a lateral pressure sufficient to force the scales apart, thus, it would seem, pinning the seeds down beyond any possible chance of securing them. But even if this last assumption is wrong, and the seeds are actually left free to be extracted, one might be rather skeptical of the bird's ability to separate, in the manner described, the scales of a great many cones, some of which are attached to their axes with almost unyielding rigidity.

In the case of our bird this part of the process,—these rapidly made adjustments of the beak to the scales,—was more or less obscure; necessarily so, from the fact of their half-hidden position. This much, however, is a matter of observation; in dealing with the cones which have begun to separate the head is turned so that the bill is inserted sidewise;—another agreement with the 'Selborne' account. Then follow the actions so characteristic of the feeding bird; a straining, twisting, prying movement, obviously requiring the outlay of considerable strength, not only of the muscles of the neck and shoulder, but, if need be, those of the body as well, and which results in bringing the head back into line with the body, at the same time forcing the scales apart far enough to allow the seeds to be secured.

This, of course, is the end to be achieved; now let us see if the motions themselves do not give us a clew as to how they aid in

making the achievement possible. Before I go farther, however,—lest I be accused of the same speculative fault which is apparent in the accounts of the writers quoted,—let me say frankly that the following is offered for no more than what seems a reasonable interpretation of the actions employed.

If we keep in mind the shape of the bill together with its position in respect to the adjacent scales, it is quite safe to assume that as the head is being turned back, the crossed tips will be brought to bear on the opposing scales, thus forcing them further and further apart as the movement continues. In this action there is indicated a perfect adjustment of the beak to the cone. A round-pointed bill, under the circumstances, would simply revolve between the scales without affecting them. The crossed bill possesses the unique advantage of *distance between the closed tips*; instead of tapering to a point, it is terminated by what is practically a wedge. This can be seen if it is diagrammed and a straight line drawn from tip to tip and from each tip back towards its base. Hence, its action might be compared with that of a knife-blade inserted horizontally between the two scales and then turned until it was perpendicular to them. It is peculiarly fitted to perform this function of a wedging instrument, for, as it is turned, the crossing mandibles support one another and give to it a strength and stability no other type would have. Moreover, an action of this kind would call for an unusual development of the muscles at the base of the bill, and this is just what we find to be the case.

Further, as the rotary movement progresses, the upper mandible would ultimately be forced into position so as to act much like a lever,—its tip resting on the lower scale, the broad curve above its tip against the under side of the upper scale,—thus, a lifting of the shoulders, exerting a pressure outward or away from the body (analogous to raising the handle of the knife) as the movement is being brought to a close would allow the upper mandible, alone, to hold the scales separated. This is precisely what actually happens, for now the lower mandible, automatically relieved from pressure, can open (while the scales are being held apart) and thus give free action to the prehensile tongue. That the tongue has been developed into a really prehensile organ is also shown by the manner

in which it is used to pick up small pieces of suet, broken off by the bill.

So far the performance has to do only with seeds that are more or less easily obtained. But it happens that some cones contain them in a thoroughly ripened condition, yet remain closed, often tightly, for some time. On our white pines (*Pinus strobus*) the process of separation commences in September and the period through which the seeds are being shed is short. The pitch pines, though a trifle later in beginning, prolong the period so that many of the cones remain partly and many others entirely closed throughout the winter and even into the spring. There are species which hold their seed much longer; the scrub pine (*P. contorta*), growing from northern California to Alaska, keeps them firmly locked within the cones for years.

With all cones, therefore, some time must elapse between the maturing of the seeds and the separation of their scales. Obviously, during this time, the seeds are completely protected from the common-billed birds. The Crossbill, however, who depends almost wholly upon them must, of necessity, be able to take them as he finds them, although it may be doubted if even he could do much with the cones of the last mentioned species. Nevertheless, in dealing with the general run of cones that are partly open or entirely closed, that is, with those in which the process of separation has just begun, or with those in which it is just about to begin,—his superior equipment is again indicated; for if the fact is kept in mind that his position, in relation to the cone upon which he is at work, will be (except in rare instances) such that its base is toward him, and that, consequently, the scales will open in the same direction, it is apparent that leverage can be applied to any scale by wedging the tip of the upper mandible under its edge. The application of leverage would be exactly the same as in the previous illustration, only at this stage, instead of being deep down between the scales, it would be at their surface. After an opening sufficient to admit the tip of the bill is made, the rest is easy.

When it is considered, moreover, that upwards of twenty-five species of pines alone (to say nothing of the various species of hemlocks, spruces and the rest of the family), inhabit the North American continent; that these coniferous trees are distributed

over the greater part of this vast area; that different species, in different regions, ripen their seeds at different times; that local conditions may cause them to yield abundantly, now in this section, now in that; and conversely, that localities where the seeds are plentiful at one time may have few or none at another;—it is not difficult to see how the Crossbill might have acquired his erratic and wide-ranging habits.

Onset, Mass.

[Note.—Upon referring to The Zoological Journal, IV, pp. 459–465, where Yarrell's account appears, we find that the paragraph quoted from Yarrell (p. 162 *supra*) is in turn quoted by him from "Townson's 'Observations in Natural History and Physiology,'" in which, he says, a chapter is devoted to this subject. We have not been able to consult the latter work but it would appear that the "discovery belongs" to Townson [Robert?] rather than to Yarrell.—ED.]

NESTING OF HARRIS'S SPARROW (*ZONOTRICHIA QUERULA*) AT CHURCHILL, MANITOBA.

BY JOHN BONNER SEMPLE AND GEORGE MIKSCH SUTTON.¹

Plates VI-VIII.

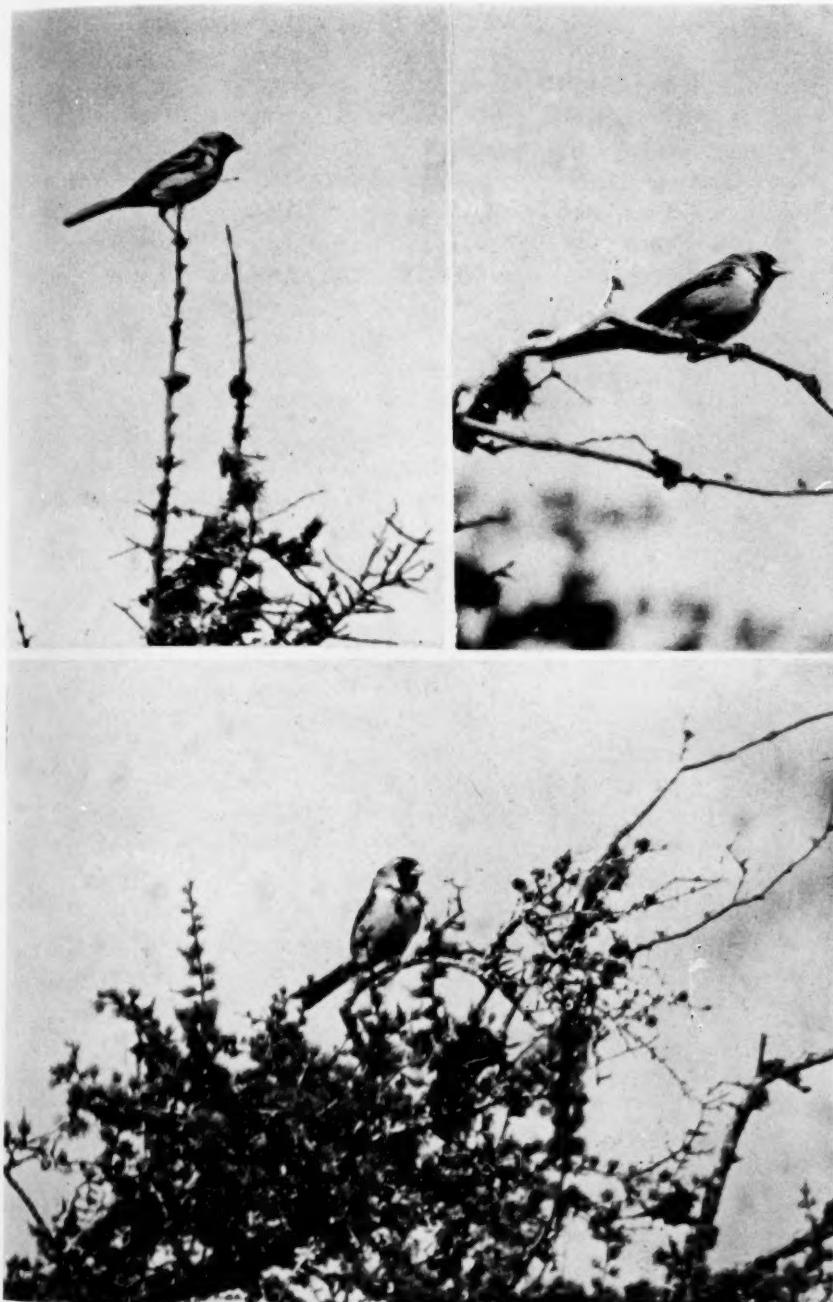
UNDER a thin clump of slender, tough-twiggled Labrador tea, whose outermost branches bear at their tips pale green bud clusters, and whose narrow, downward-slanting leaves glisten in the spruce-filtered sunlight; cupped in the damp crown of a sphagnum island-hummock among the conifers, its rim only a few inches above the ice-filmed water, is a nest lined with fine grass. In this nest, and shadowed so deeply as to appear of a dark, indefinite color, are four eggs. Such is man's first recorded glimpse of the eggs of Harris's Sparrow in the wilderness summer home of the bird.

The story of the discovery and naming of this handsome sparrow,² of the mystery which so long surrounded its nesting ground, and of the all but century-long search for its eggs, forms one of the most interesting chapters in the annals of American ornithology. Harry Harris ('The Auk,' Vol. XXXVI, 1919, pp. 180-190) has given us such a full account of the earlier discoveries of the species by Nuttall, by Maximilian, Prince of Wied, and by Audubon; and Professors Myron H. Swenk and O. A. Stevens ('The Wilson Bulletin,' Vol. XLI, 1929, pp. 129-177) have presented such an exhaustive treatise on its behavior during migration and in winter, that now there is need for no more than a discussion of the spring and summer activities of the bird in its northern nesting ground.

The breeding range of Harris's Sparrow is now believed to

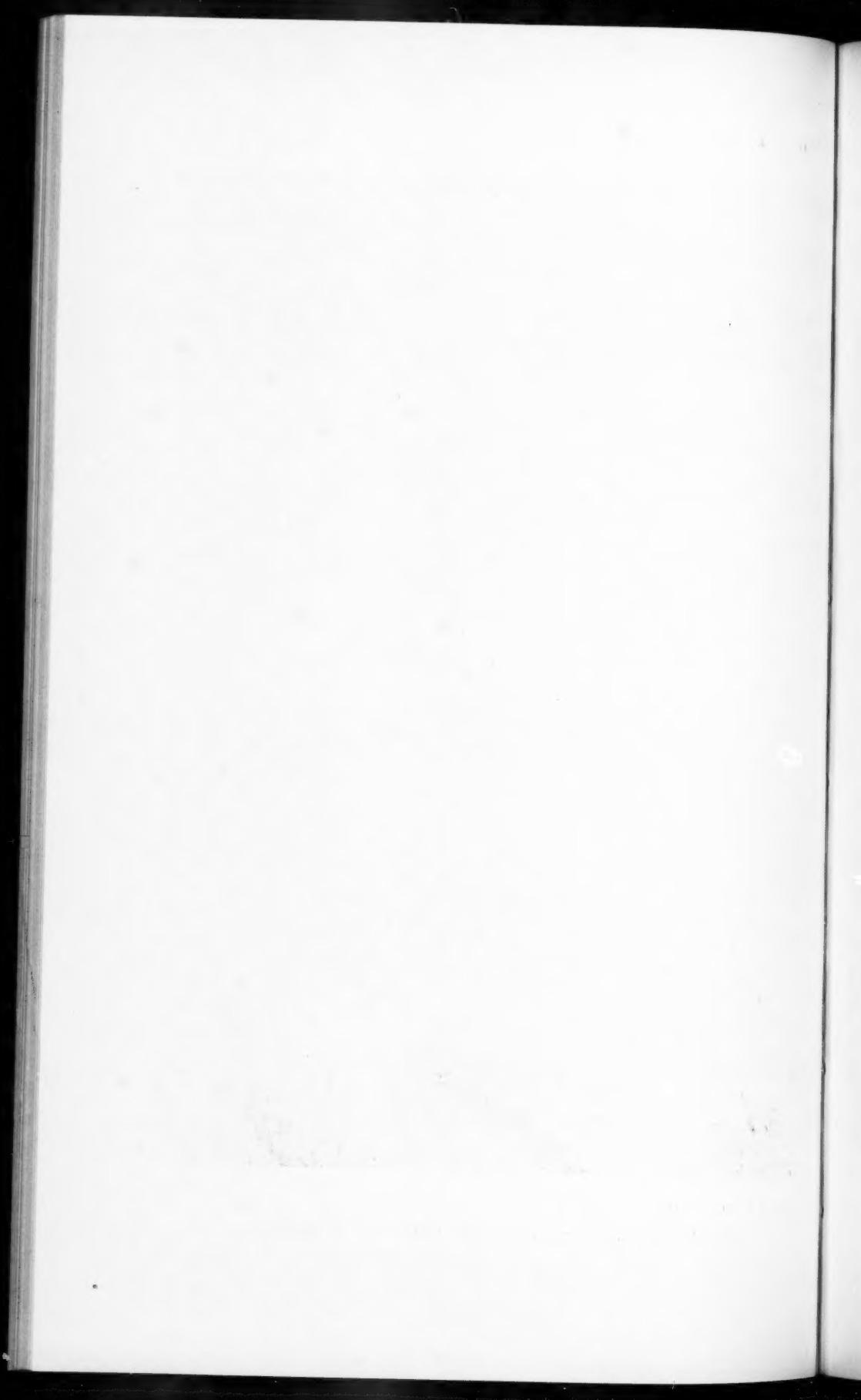
¹ The authors are deeply indebted to Mr. Bayard H. Christy, of Sewickley, Pennsylvania, for a critical reading of this manuscript; to Mr. W. E. Clyde Todd, of the Carnegie Museum, Pittsburgh, Pennsylvania, for assistance in measuring, describing, and photographing the eggs; and to Mr. Percy A. Taverner, of the Canadian National Museum, Ottawa, Ontario, for many helpful suggestions.

² The fact that Nuttall's English name "Mourning Finch" has been superseded by Audubon's "Harris's Finch," whereas his classical name *querula* has endured, is highly interesting to students of ornithological nomenclature. "Mourning Sparrow" would, indeed, be a fitting name for the black-cowled, sad-voiced bird. Audubon named the sparrow (*Birds of America*, 8 vo. Ed., Vol. VII, 1844, p. 331) after his "excellent and constant friend EDWARD HARRIS, Esq.," who apparently shot at least two of the specimens upon which Audubon based his description.



Photos by O. S. Pettingill, Jr.

HARRIS'S SPARROW NEAR NEST, CHURCHILL, MANITOBA.



extend from the region of Churchill, on Hudson Bay, westward and northwestward to the eastern shore of Great Bear Lake, probably throughout the belt of stunted trees which is characteristic of the Hudsonian Life Zone, just south of the vast Arctic Barren Grounds. This breeding ground has been more or less definitely known for thirty years; yet prior to the spring of 1931 no ornithologist, to the best of our knowledge, had ever seen a nest with eggs. The reason this part of the life-cycle of the species has remained so long unknown is not that the bird is especially rare, or of local or irregular occurrence, but that, up to the year 1929, the region where it nests was all but inaccessible in the nesting season.

The completion of the Hudson Bay Canadian Government Railway in 1929 opened up a vast territory, a territory which holds much of interest for the ornithologist. The terminus of this railway, Churchill, Manitoba, is the very point at which Edward A. Preble (1902, *A Biological Investigation of the Hudson Bay Region*, pp. 120-121), in 1900, and Percy A. Taverner,¹ in 1930, found Harris's Sparrow common during the summer; and it was at this convenient point that our expedition decided to center its activities during the spring of 1931.

Churchill (formerly known as Fort Churchill) is situated at the mouth of the Churchill River, in Latitude 59° N., directly north of extreme eastern Kansas, Oklahoma and Texas. Our party was composed of four men. There were, in addition to the authors, Mr. Bert C. Lloyd, of Davidson, Saskatchewan, an active young collector who had had three years of field experience in the Churchill region, and Mr. Olin Sewall Pettingill, Jr., of Middleton, Massachusetts, who accompanied us principally in the capacity of photographer.

The trip from Winnipeg to Churchill, via The Pas, required but three days and we were comfortable in our antiquated Pullman car, even on the last lap of our journey, although the aspect of the countryside became more wintry hour by hour as we moved northward. The crossing of this same country in spring, by dog-team, afoot, or by canoe (and formerly no other means were available) would have required weeks.

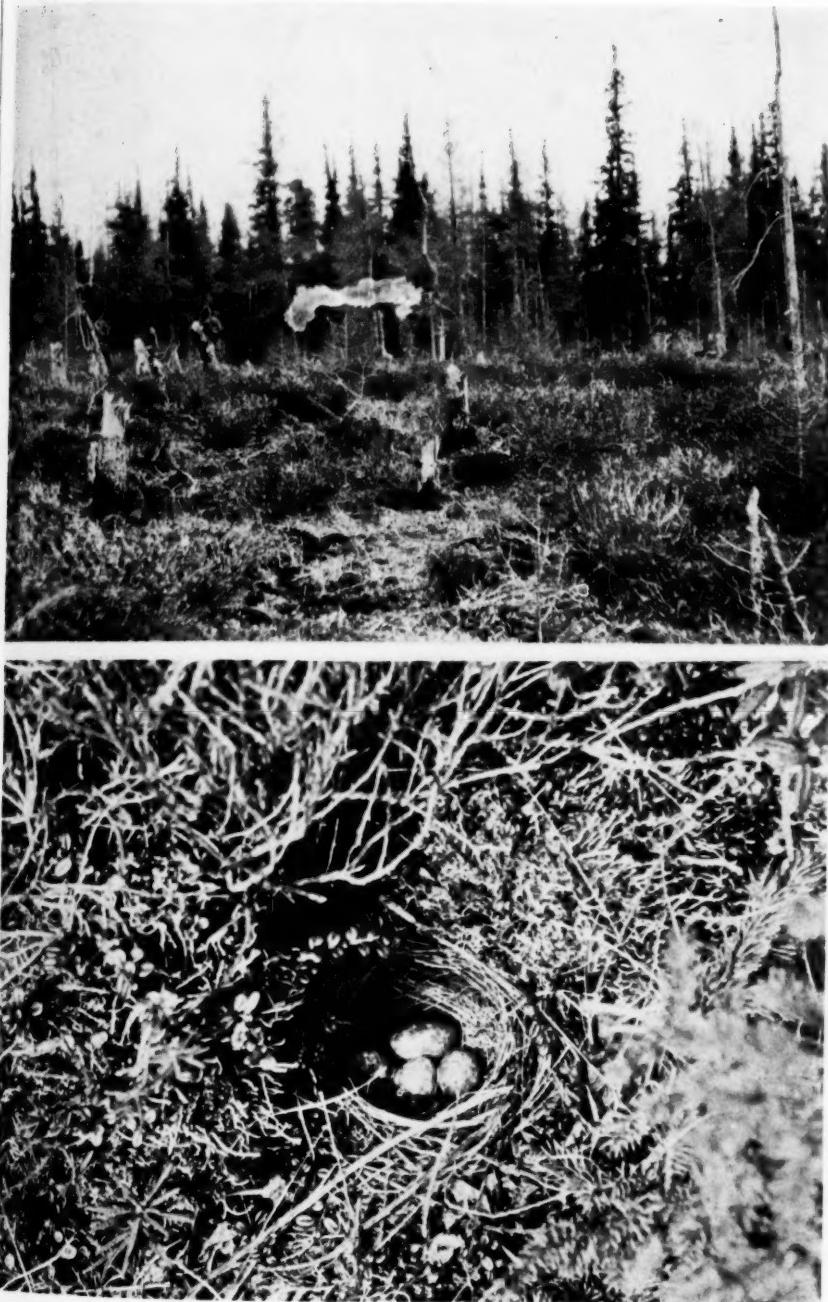
¹ The report on Mr. Taverner's field work in the Churchill region has not yet appeared.

At The Pas, on May 23 (a bright, pleasant day), we saw many Harris's Sparrows, most of them in flocks of six or eight individuals, and heard many in full song. They were especially abundant along the wooded shore of a small lake at the edge of town and in the open spruce forest where, among the dead leaves under the shrubbery they scratched noisily. Here we noted also two pairs of White-throated Sparrows (*Zonotrichia albicollis*), the males in full song.

On May 24, at Gillam, 326 miles northeast of The Pas, we saw neither Harris's nor White-throated Sparrows, though two Gambel's Sparrows, *Zonotrichia leucophrys gambeli*, a Tree Sparrow, a few Lapland Longspurs, a few Robins, a Flicker, three Greater Yellow-legs, a Baird's Sandpiper, and a Semipalmated Plover were observed not far from the railway station. Gillam lies in the migratory path of Harris's Sparrow, so the reason we did not find the species there is probably that it had not yet arrived. Whether or not the White-throated Sparrow occurs there in summer we cannot say.

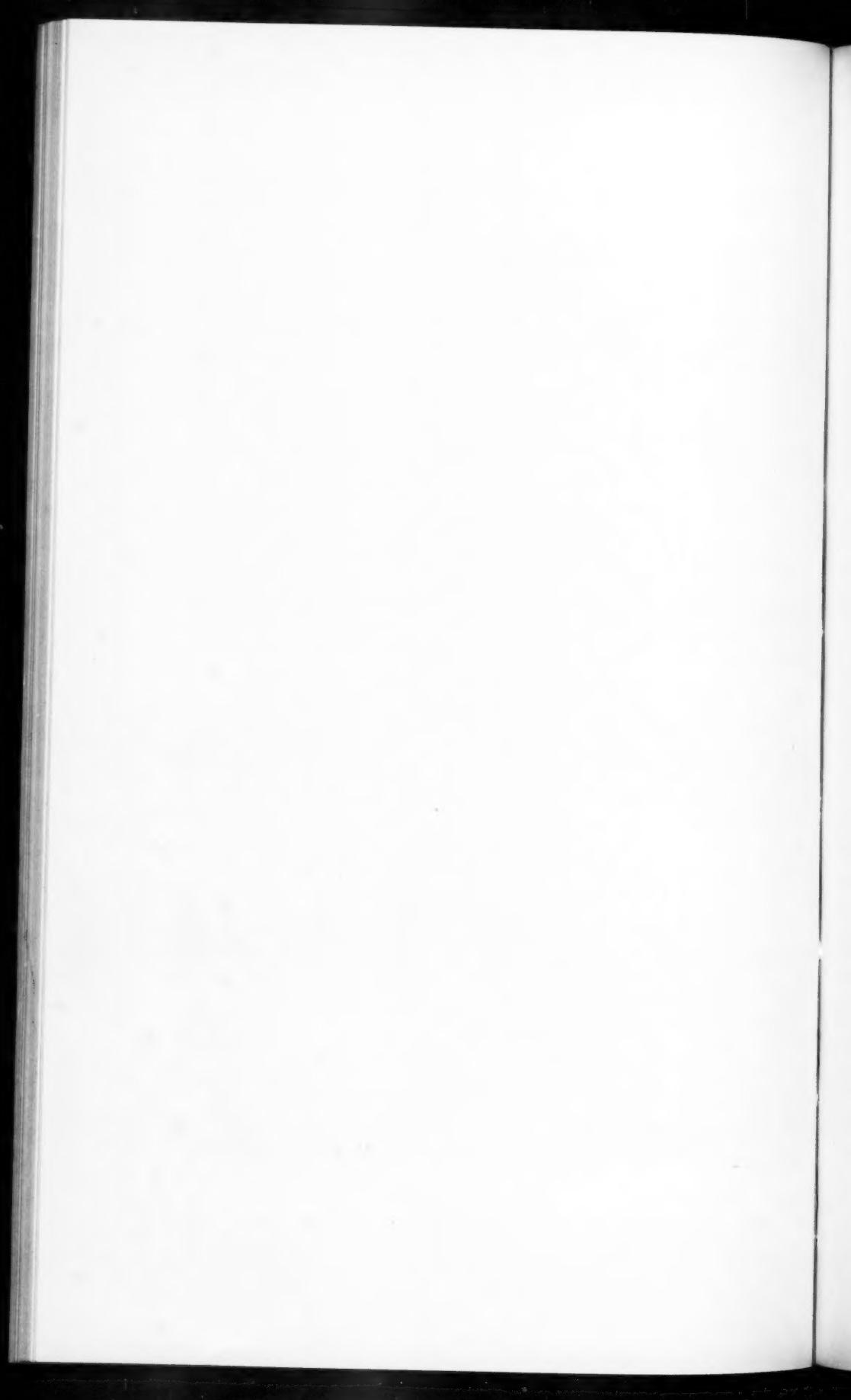
As we journeyed northward from Gillam, we passed through spruce forests which gradually became lower and thinner. The terrain was monotonously flat, save where the railway followed or crossed a river. Everywhere among the trees were snowdrifts, many of them evidently five or six feet deep; snow flurries frequently enveloped the train; flocks of migrating Snow Buntings and Lapland Longspurs flew about us, bounding low over the woodlands. Finally, when within a hundred miles of Churchill, we began to cross great stretches of open, treeless barrens, moss and grass-covered tundra, between the tongues of spruce forest.

At Churchill we stepped from the train into the midst of a great, winter-bound construction camp. Here were barracks for sixteen hundred workmen; on the river bank stood a huge, flat structure which appeared to be a solid cement block: the beginnings of a gigantic elevator which, when finished, would provide storage space for two and one half million bushels of grain; this way and that led narrow-gauge railway tracks, over which, later, dinkey engines were to run, pulling gravel-cars, work-cars, and water-tanks; on the hill stood mission buildings, small, one roomed, wooden bank buildings, a motion picture 'palace,' the headquarters



Photos by O. S. Pettingill, Jr.

NESTING SITE AND NEST (No. 2) OF HARRIS'S SPARROW, CHURCHILL, MANITOBA.



of the Royal Canadian Mounted Police, and a wireless station. This was Churchill, a port in the making.

As we piled our baggage upon a tractor-truck, we stumbled through wet snow two feet deep. To the southward of the rocky ridge which extends along the shore of the bay the snowdrift was twenty feet deep; the mile-broad river was frozen shut for miles inland from its mouth; the bay, at the very mouth of the river, was more or less open, but beyond lay a vast, dreary waste of ice chunks, packed solidly enough in some places to permit crossing afoot or with dog-team and *komatik*, but elsewhere moving about with tide, wind, and river current. Our tent was pitched at the river mouth, in a little gully among the rocks.

On the following day we learned that by walking inland along the eastern bank of the river for about six miles we might reach wooded country. There, amid waist-deep, ice-sheeted pools, slushy, gray drifts, and mud-bottomed muskeg streams, were to be found thick stands of spruce trees, some of them thirty, perhaps even forty feet high, with trunks a foot or more in diameter at the base; tamaracks, not yet hung with their lacy foliage; willows, in thick tangles at the edges of the spruce woods; and low shrubs, with narrow, rhododendron-like leaves. Between the woodlands and the river mouth, and not more than half a mile inland from the bay, was an area thickly set with small, ice-bound lakes.

To the west of the river rose rock-faced hills, on whose sheltered slopes grew irregular patches of stunted spruce, and north of these extended a long, barren point which formed the eastern shore of Button's Bay.

On May 25 we recorded among other summer resident species, Lapland Longspurs, Pipits, Horned Larks, Pintails, and Semi-palmated Plovers. Furthermore, we found that, although there was much snow everywhere, there were also extensive bare areas on the open tundra and along the exposed ridges, and that some of the smaller, shallower ponds were actually partly open.

The temperature, these first few days, ranged from 28° F. to about 60° F. during the daytime. Most of the time the mercury stood disagreeably near the freezing-point. It was colder at night, of course. We had considerable rain and snow. The wind was usually from the north.

According to our observations, Harris's Sparrow arrived from the south in the Churchill region, on May 27, a chilly, windy day. On this date, three were seen in the low bushes along the river bank, not more than a mile and a half inland from the mouth, and at least four miles from the spruce woods in which the birds were reputed to nest. A female, with unenlarged ovaries, was collected. On the following day a single bird was seen among the rocks near our tent. It was scratching in the moss in the shelter of a huge boulder. It suddenly stopped searching for food, lifted its head, and sang. The simple, whistled notes were the more beautiful because of the roughness of the day and scene.

We continued to see a few Harris's Sparrows here and there on the Barren Grounds (that is to say, on treeless areas), nearly every day during late May and early June. On May 30, a bright, calm day, we collected a singing male near camp. On June 5, two females were taken among the willow bushes along the river bank, about five miles from the spruce woods. The ovaries of these specimens were, we found, not at all enlarged. We were at first puzzled that the birds should linger in these inhospitable, treeless surroundings, and scarcely knew whether to look for nests in the woodlands or on the tundra; we finally decided, however, that individuals seen in the open country were migrants, *en route* to more northerly or northwesterly nesting grounds.

We observed daily, from the first of June on, Harris's Sparrows. In our study of them we encountered difficulties. The territory where the birds were most numerous was so far distant from camp that, unless we were fortunate in meeting and hopping a gravel- or water-train, we had to walk from five to eight miles before we could begin the day's operations. The weather was frequently disagreeable; it rained, sleeted, or snowed, and we had wind and sometimes fog to contend with. We could work in the bush with comfort, even on stormy days, however; and, fortunately, the country in which we usually worked was not thickly set with quaking muskeg bogs. The coloration of male and female birds is so similar that we found we could not distinguish the sexes in the field; we could not, therefore, give our undivided attention to the nest building fe-

¹ It is our belief that only the female builds the nest, since this is the rule among other members of the genus *Zonotrichia* with which we are acquainted.

THE AUK, VOL. XLIX.

PLATE VIII.



Photo by S. Prentice and J. B. Semple.

EGGS OF HARRIS'S SPARROW.



males.¹ The territory occupied by a pair of birds was frequently so large that it was easily possible to lose trace of both male and female completely, when they dashed off through the thickets, and to be unable to find them again for hours.

We found the birds most common at the edges of the woodlands, in clearings near the railway track, and in the bushy margins of burned-over areas. As a rule but one pair of birds lived in a given patch of spruces or tamaracks; but sometimes two or three pairs inhabited the same narrow tongue of forest.

By June 7, we had at least thirty pairs more or less definitely located in an area of five square miles; we had not, however, witnessed a single action indicative of nest building. The fact that Mr. Taverner had found well-developed young in the nest on June 27, in 1930, disturbed us considerably. Allowing a possible fourteen days for incubation, another four or five for deposition of the eggs, and so on, we calculated that by June 7 the birds ought, at least, to be building their nests. Mr. Lloyd, who had assisted Mr. Taverner during the preceding spring, allayed our anxiety somewhat by assuring us that the season of 1931 was decidedly backward, much later than that of 1930, and that the birds probably had not yet started their nesting.

We continued to collect specimens sparingly, so as to observe the condition of the reproductive organs. A male collected on June 9, and a male and two females taken on June 11, obviously all were mated birds; and yet the ovaries of the females were not noticeably swollen, nor was there a hint of such bareness on the belly as attends the period of incubation. We watched certain pairs by the hour, and found them so amazingly noncommittal about what we supposed to be their "territory" that we began to wonder whether we were anywhere near the actual nesting grounds. The birds would feed together for long periods in the morning, working along among the moss and grass; kicking vigorously, like Fox Sparrows, through leaves and debris; then mount the low bushes, wipe their bills quickly, and fly to some far-distant part of the woodlands, where it was often impossible to find them. Sometimes, indeed, they became mildly excited at our presence; whereupon they would begin *weenk-ing* loudly; but they usually soon lost interest, wiped their bills, shook themselves, and dashed off, leaving us to wonder where their

nest could be.¹ Frequently we found them feeding in tamarack trees; they appeared to be eating the buds. They were very graceful in their movements, climbing about on the slender, outermost twigs, and bowing this way and that like crossbills. Sometimes a single bird would fly suddenly from the ground under a bush, as if it had just come from a nest. Such a bird usually sought a rather high perch, often the top of a dead spruce near-by, where it would give itself over to a spasm of alarm notes, loud enough to summon all the yammering Lesser Yellow-legs from miles around; then it would dart away, to be seen no more. The habit of the birds, when frightened from the ground, of flying to rather high perches was characteristic.²

By mid-June, all the birds we observed in the woodlands appeared to be mated.³ At this season the males so frequently sang in a chorus that it was sometimes difficult to separate a single song from the medley which sounded through the woods. The song most frequently heard was a single, whistled note, tenuous, fragile, a trifle quavering, and possessed of the plaintive character of the final, *Peabody* phrases of the White-throated Sparrow's lay. Sometimes this note was repeated once, twice, even four or five times, the notes trailing into each other uncertainly. Other songs were more elaborate, and consisted of two notes at one pitch followed by two or three notes two steps higher, or two or three steps lower. Often the notes struck were not quite in key, this frequently being responsible, no doubt, for the minor effect the songs produced. The songs of several birds were sometimes so strikingly identical in pitch that a distant song sounded precisely like the echo of another song heard closer at hand.

In the morning, usually between eight and ten o'clock, and in the

¹ Mr. Taverner, in a letter addressed to the junior author, and dated Aug. 3, 1931, states, concerning the behavior of the birds during the summer of 1930: "We found them most aggravating birds. I personally watched pairs for many hours in the aggregate only in every case to have them suddenly vacate the neighborhood entirely and apparently permanently without giving any indication of the position of the nest."

² Mrs. Margaret M. Nice (*The Condor*, Vol. XXXI, p. 57) has referred to this habit, as she observed it in Oklahoma. In her own words "like Tree Sparrows [they] fly up, instead of diving into depths of cover as Song and Lincoln Sparrows do."

³ As late as June 11, 13, and 15, solitary, apparently unmated birds were observed in patches of willow, or among the bare rocks, on the Barren-Grounds.

late afternoon or evening, when the weather was fine, all the birds sang together for long periods. Sometimes, indeed, the chorus continued practically all day long. During the regular song periods the performers often gave their songs with such regularity that two or three birds, singing at different pitches, sometimes produced simple tunes which were repeated again and again, unless some disturbance caused one of the singers to stop. One such tune, which the junior author heard and recognized instantly as part of the theme of a familiar classical composition, was produced by at least two and possibly three birds. It was repeated, almost flawlessly, about twenty times.¹



Since we hesitated to collect birds whose nests we hoped to find later, we did not shoot any singing birds in an attempt to learn whether the female ever sings. Many times, however, we gained the impression that mated birds were singing to each other. One such case we noted on June 8. We were watching two birds which we assumed to be mates and which were feeding in a tamarack; one of them was smaller than the other, and the two seemed to be attached to each other. Suddenly feeding stopped and both began to sing, one in a lower, gentler voice than the other.

Harris's Sparrow has another, louder, and very striking song which we heard only occasionally. This song was so distinctly

¹ Hearing this familiar tune in the woods under such unusual circumstances so surprised and delighted me that I jotted it down as best I could and whistled it every day until I got home. There I enlisted the help of my mother, Mrs. Lola Miksch Sutton, who soon found, in her musical library, the composition we were seeking. The above tune is almost precisely the first four measures of Schubert's *Minuet from the Sonata in G, Opus 78, No. 3*, save for the omission from the birds' performance of the very first note of the composition. The hiatus is filled, in the above score, by a quarter rest. The *Minuet* is an *allegro moderato* movement, whereas the birds sang it more as a *largo*. The first five notes of the above tune were not definitely in key; they were just a trifle high, perhaps a quarter-step off, for the Schubert composition.

The remarkable feature of this performance is, of course, that, though produced by two or three different birds, supposedly singing independently and at different pitches (like belled horses at the circus), it kept so nearly true to a recognizable key note according to our diatonic scale.—G. M. S.

different from the usual whistle, and so suggestive of songs of some of the other species of sparrows, that for some time we could not place it. It began with a fine, swiftly descending, rather tuneless whistle or squeal, and closed with a series of from three to six rough, buzzing, drawled notes which decidedly resembled the usual song of the Clay-colored Sparrow (*Spizella pallida*). We wrote the song down thus: Eeeeeeee, zhee, zhee, zhee, zhee, zhee. We noticed that the bird usually gave this song from a high perch and that, after it had sung, it dropped to the ground stealthily or flew off hurriedly.

The alarm note was a loud *weenk*, or *wink*, readily distinguishable from the weaker *zheek* of Gambel's Sparrow and from the heavy *tchup* of the Fox Sparrow (*Passerella i. iliaca*). The call which accompanied mating was a fine, rolling chatter, similar to that given at such time by many other members of the sparrow tribe.

On June 15, a bird carrying a wisp of dry grass was observed to go to the ground somewhere near the base of a large spruce stump in a grove of live spruce trees which grew near a small lake and on rather high ground. Though a prolonged search was made, the nest was not found. We were torn, that evening, between high enthusiasm and frank exasperation, for we knew that there must be a nest somewhere in the vicinity and we also knew we had not found it!

On the next day, June 16, in another part of the forest, a nest with four slightly incubated eggs was discovered (No. 1). The circumstances of the finding were these: After watching a certain pair of birds for a time, the junior author started across a wet, open spruce woods, bound for an area a mile distant which the birds were known to frequent. Just as he entered a clump of comparatively tall spruce trees, he noticed a Harris's Sparrow picking at its belly with its beak, as if it had just come from a nest. He watched the bird for a time without moving, and then deliberately and quietly retraced his steps, marking the spot carefully. After about fifteen minutes he returned briskly, walked noisily through the water, the mossy mounds, and bushes, and, just as he was about to set foot upon the crest of one of the water-bound hummocks—he flushed the bird. The nest was less than twelve inches from his foot. The bird flew directly from the nest, without any attempt at feigning injury;

it perched on a dead spruce bough about twenty yards away, where it wiped its bill. It gave no alarm note. The bird, a female, was collected at once, to make identification certain.

The nest, like that found by Ernest Thompson Seton,¹ was lined with grass, and in appearance and location resembled that of a White-throated Sparrow. It was placed a little to the southward of the top of a mossy, shrub-covered, water-girt mound in a cool, shadowy spot, about thirty yards from the edge of a clump of rather tall spruce trees. It was about thirteen inches above the brown water which surrounded the mound. The foundation material was largely moss, with a few leaves, slender weed stalks, and grasses; the lining was entirely of grass. The cup was $1\frac{3}{4}$ inches deep and $2\frac{3}{4}$ inches in diameter, as measured in the field. The walls were rather thin, for the moss into which the nest was built was very deep and soft. The eggs were sheltered from above by a few sprigs of Narrow-leaved Labrador Tea (*Ledum palustre augustifolium* Hooker)² which were then in bud. The male bird was not seen. The clump of trees where this nest was found was in the forest about two miles back from the edge of the Barren Grounds; the woods were open, however, and the mossy, grassy spaces between the patches of trees had much the appearance of tundra.

On the night of June 18, the entire Churchill region was swept by a terrific windstorm from the northeast, accompanied first by rain and then by snow. In the morning we found the ground covered with six inches of snow which had drifted badly in some places. Lapland Longspur, Tree Sparrow, and Semipalmated Sandpiper nests which we had been watching were completely buried, though incubating Horned Larks and Semipalmated Plovers were found sitting on their eggs in holes in the snow several inches deep! This storm must have worked considerable havoc with the Harris's Sparrows, for even in the sheltered woodlands the snow was deep and considerably drifted.

On June 20, however, we found a nest (No. 2), with four eggs, which had weathered the storm successfully. This nest was almost certainly built by the bird which had been seen on June 15 with

¹ 1908, *The Auk*, Vol. XXV, p. 72.

² For the identification of the flowering shrubs mentioned in this paper we are indebted to Dr. O. E. Jennings of the Carnegie Museum.

nesting material in its beak, for it was situated only about fifteen feet from the spot where the bird had been seen to go to the ground. It was placed at the base of a small clump of shrubs, between two small mounds of moss, not far from a stream, at the edge of a burned-over area. It was constructed entirely of grass, was situated upon a slope with southern exposure, and was sheltered from above by a few twigs. The incubating female flushed at a distance of about ten feet. The female, and the male which was singing near-by, were collected. One member of the party guarded the nest for hours while another returned to camp (at least six miles away) for the camera. The eggs were quite fresh.

On June 26, we made our first trip to the west of the river. Here, in the irregular stands of spruce on the hillsides about a mile back from the river, and especially in the open forest about two miles inland from the shore of Button's Bay, the birds were, at least locally, downright abundant. Every suitable patch of spruce harbored one or more pairs. Alarm notes or songs sounded almost constantly as we walked through the woods. The area which appeared to be best suited to the needs of the birds was the damp, rather sheltered woodland, just at the foot of a rocky hill about six miles west of the river and about two miles inland from the shore of Button's Bay. On this date four nests were found.

The first of these (nest No. 3) held five fresh eggs. It was prettily situated at the edge of a patch of stunted spruce trees on a hillside, under a clump of flowering Alpine Bearberry, *Arctostaphylos alpina* (Linnaeus) Sprengel. The bird was first seen not far from the nest, perched on a low dead spruce, whence she called in an agitated manner. The nest was located some time later by walking noisily through the same part of the thicket; the bird flushed at the loud sound of the breaking of a heavy stub. The nest was well hidden under the shrubs; it was made entirely of grass. The female was collected.

Another nest (No. 4), containing four fresh eggs, was situated at the base of a dead spruce, the lower boughs of which concealed it. Though numerous living spruces stood in the vicinity it was placed more or less in the open. It was found by flushing the female bird, at a distance of about five feet. She at once set up a loud clamor. She was collected, and in her oviduct was found an almost com-

pletely formed egg, indicating that this set would probably have had five eggs when complete. A small egg, probably that of a Gambel's Sparrow, was found on the moss not far from the nest. The male of this pair, as well as the female, was collected.

Nest No. 5, containing three eggs, was situated at the foot of a large rock over which lay a large dead spruce branch; it was built of grass. The eggs were so heavily incubated that they were difficult to prepare. The fact that this, the smallest set thus far taken, had obviously been laid earlier in the season than the others surprised us. It is interesting to note that in nests of the Horned Lark found about this time, sets of three eggs were invariably well incubated, even at the point of hatching, whereas sets of four were fresh. This we believe was not altogether a coincidence; it would appear that the birds which began their mating activities earlier in the season laid a smaller set of eggs, either because they sensed that the food supply might be inadequate for a larger brood, or because temperature, or food supply, or some other factor influenced the procreative urge in the parent birds.

Nest No. 6 was situated at the base of small, dead spruce, on the southern exposure of a mossy hummock, in rather open spruce and tamarack woods, about twenty yards from a small, tree-trimmed lake. It was made entirely of grass, and was sheltered from above by a few sprigs of Labrador tea. The set of four eggs was interesting in that one, which was noticeably smaller than the others, had the general appearance of a Gambel's Sparrow's egg. The male bird had sounded the alarm some time before the female, which was collected, flew from the nest. She flushed almost underfoot.

On June 29, at Mosquito Point, on the western bank of the river, and about nine miles inland from the mouth, we did not see many Harris's Sparrows, though some of the country appeared to be well suited to their needs.

Nests Nos. 7 and 8 were found on July 1, in the Landing Lake district, about nine miles south of Churchill. These nests were constructed and situated similarly to the others, and contained, respectively, three and four eggs, all considerably incubated. Both nests were discovered by flushing incubating birds. As the season advanced the females sat much more closely.

Since we were especially eager to secure some photographs of the

adult bird at the nest, Mr. Pettingill, on July 3, erected a blind near one of these nests. He remained in the blind for two hours, but the female did not return; she flew from tamarack to tamarack in an excited manner, but uttered no sound. The male did not appear, though a singing bird was heard about a hundred yards away. On July 4 this nest was apparently deserted. Mr. Pettingill then moved the blind to the second of the two nests found on July 1. Unfortunately the weather turned cold and stormy, and the birds deserted this nest also; on July 9, the nest was found to be water-soaked, and the eggs, though pipped, were stone cold.

In the meantime, on July 3, a nest (No. 9) with five fresh eggs was found not far from the place where the first nest had been discovered. This probably was the nest of a pair of birds which had lost their first set of eggs in the storm of June 18. The nest was situated under a clump of Labrador tea in full bloom at the edge of an old burning, near a handsome stand of spruces which stood in the shallow valley of a small, poorly defined, muskeg stream. The female bird flushed almost underfoot, flew directly to the top of a spruce near by, and began *weenking* loudly. She was joined almost immediately by the male, and then by another pair of Harris's Sparrows, several Lesser Yellow-legs, a Black-poll Warbler, and a pair of Gray-cheeked Thrushes. She was watched for fully half an hour after she had left the nest. After her first tirade of *weenking* was over, she flew off through the woods, fell to feeding, and after about ten minutes returned to continue her alarum. She did not go back to her eggs, though the distance at which she was being watched from across the burning was considerable.

On July 6, the authors left Churchill, while Mr. Lloyd and Mr. Pettingill remained a week longer, to collect additional material and to take photographs. On July 9 a nest (No. 10) containing three half-grown birds and one addled egg was found. An all day attempt was made to get a photograph, but the birds were exceedingly wary and no good results were obtained. During the following night the young birds disappeared, probably victims of an Arctic fox or weasel.

Mr. Pettingill's notes concerning his experiences in the blind are of interest. They read, in part: "I set up my blind five feet away from the nest and attempted to make photographs. Lloyd remained

in the vicinity until I was prepared to photograph and then departed. The birds continued to "wink," one *continuously*, during my presence. After 1½ hours one of the birds sang for a while a short distance away and returned suddenly to continue with the racket.

"For three hours I remained in the blind. I could see no indication throughout my stay that either parent would approach the nest. Both birds passed from one tree to another around the blind, making this circling a continuous performance. Not once did they drop to the ground nor come any nearer than this particular circle of trees. During the last hour I remained in the blind, the birds were as excited as they were the first hour. Had I been standing there without a blind they probably would have been no more alarmed. I feel sure that if I had left the blind near the nest the birds would have deserted."

Food of Harris's Sparrow on its Nesting Ground.

The Harris's Sparrow is primarily a ground feeder. It kicks and scratches energetically among the fallen leaves and dry weed-stalks, and works its way through the grass and moss searching carefully for seeds and insects as it goes. We rarely saw the birds feeding for a very long period anywhere above the ground. They were sometimes seen in tamarack trees, however, where they appeared to be finding some sort of insect, or perhaps insect eggs, in the clusters of leaves.

We preserved the stomachs of several of the specimens collected, and six of these have been examined by the Bureau of the Biological Survey of the U. S. Department of Agriculture. According to the report given to us by Mr. Clarence Cottam of his identification of material found, the birds consume considerably more vegetable matter (about 66%) than animal matter. Among the vegetable matter found were seeds of various grasses, sedges and bulrushes; seeds or fruit-pulp of the curlew-berry, cranberry or an allied form, and the blueberry; seeds of birch, pigweed, and lamb's quarters; and a considerable quantity of oats which doubtless had been found by the birds along the railway tracks.

Among the animal matter found were remains of numerous insects, both in adult and larval stages—ground-beetles, leaf-eating

beetles, wood-borers, click-beetles, leaf-miners, stink-bugs, small moths, horse-flies, ants, ichneumon-flies, crickets and other forms; several small spiders; and fragments of small snails and other mollusks.

Since certain of our readers may be interested in a detailed account of Mr. Cottam's findings, we present his report in its entirety here:

*Stomach Contents of six Harris's Sparrows collected at Churchill,
Manitoba during May and June, 1931.*

1. Stomach one-third full. Food material 45 per cent; gravel, etc., 55.
Percentage of animal matter, 9; of vegetable, 91.

Contents: Shell frag. of bivalve = 5%; frag. of 1 Formicidae = 1%; frag. of undetermined Coleoptera = 1%; mandibles of 1 Acrididae = 2%; frag. of Poaceae seeds = 1%; 1 seed of *Scirpus* sp. = 3%; seed frag. of about 20 *Carex* sp. = 50%; seed coating and undetermined plant fiber = 37%.

2. Stomach full. Food material 99 per cent; gravel, etc., 1.
Percentage of animal matter, 24; of vegetable, 76.

Contents: Frag. of 1 Chrysomelidae, = 1%; frag. of 1 Buprestidae = 1%; frag. of Hemiptera = trace; frag. of 1 Lepidopterous larva = 1%; frag. of 1 Diptera = 1%; frag. of 1 Vespoidea = 5%; frag. of 1 Myrmicinae = 1%; frag. of 5 Formica sp. = 5%; frag. of 3 undetermined Formicidae = 5%; frag. of 3 undetermined Hymenoptera = 3%; spider frag. = 1%; Mollusk frag. = trace; frag. of 4 seeds of *Empetrum nigrum* = 4%; 61 seeds *Cyperus* sp. = 60%; 16 seeds of Ericaceae = 3%; 12 seeds = 1%; 4 seeds of *Vaccinium* sp. = 1%; undetermined plant fiber = 7%.

3. Stomach full. Food material 99 per cent; gravel, etc., 1.
Percentage of animal matter, 73; of vegetable, 27.

Contents: Fragments of 22 Elateridae = 50%; frag. of 1 larva of Elateridae = 1%; frag. of 1 large Curculionidae = 3%; frag. of Heteroptera = trace; frag. of undetermined Diptera and about 500 eggs = 8%; frag. of Lepidopterous larvae = 1%; frag. of 2 Formica sp. = 1%; frag. of 13 Myrmica sp. = 5%; frag. of 1 Ichneumonidae = 1%; frag. of 1 Alsyiidae = trace; spider fragments = 3%; frag. of bivalve, = trace; 1 seed of *Amaranthus* sp. = trace; 2 seeds of *Carex* sp. = 1%; frag. of 1 seed of *Vaccinium* sp. = trace; 4 seeds of *Empetrum nigrum* = 2%; 2 seeds and fruit pulp of *Arctostaphylos uva-ursi* = 1%; undetermined fruit pulp = 16%; 125 seeds of Ericaceae = 7%.

4. Stomach full. Food material 92 per cent; gravel, etc. 8.
Percentage of animal matter, 80; of vegetable, 20.

Contents: Fragments of 6 *Cryobius* sp. and 1 other Carabidae = 15%; frag. of 2 *Cercyon* sp. = 1%; frag. of 1 Chrysomelidae = 2%; frag. of un-

determined Coleoptera = 2%; frag. of 2 Coleopterous larvae = 7%; frag. of 1? Pentatomidae = 1%; frag. of 4 large Noctuidae larvae = 33%; frag. of 2 undetermined Lepidopterous larvae = 5%; frag. of 1 larvae of *Chrysops* sp. (Tabanidae) = 1%; frag. of Gastropod = 1%; frag. of undetermined Hymenoptera = trace; frag. of 3 spiders of which one was Attidae = 12%; 2 seeds of *Carex* sp. = 1%; 2 seeds of *Cyperus* sp. = trace; frag. of 1 seed of *Betula* sp. = 1%; frag. of 1 seed of *Empetrum nigrum* = 1%; finely broken up seed frag. of what appeared to be *Arctostaphylos* sp. = 7%; seeds, frag. of glume of Poaceae = 1%; 12 seeds held = 5%; 22 unidentified seeds held = 4%.

5. Stomach two-thirds full. Food material 60 per cent; gravel, etc. 40.

Percentage of animal matter, 10; of vegetable, 90.

Contents: Fragments of 1 Curculionidae and other Coleopterous fragments = 5%; frag. of 3 *Formica* sp. = 5%; frag. of 3 seeds of *Arctostaphylos uva-ursi* = 7%; 7 seeds of *Empetrum nigrum* = 5%; frag. of 2 seeds *Cyperus* sp. = 1%; frag. of about 48 seeds of *Carex (near rostrata)* = 50%; 2 seeds of *Carex* sp. = 1%; frag. of 2 seeds of *Chenopodium* sp. = 1%; undetermined plant fiber = 25%.

6. Stomach three-fifths full. Food material 50 per cent; gravel, etc., 50.

Percentage of animal matter, 3; of vegetable, 97.

Contents: Frag. of Coleoptera = 1%; undetermined insect fragment = trace; frag. of mollusk = 2%; frag. of 4 seed coats of undetermined composite = 5; frag. of seed coats of *Avena sativa* = 89%; undetermined plant fiber = 3%.

Eggs.

The series of twenty-nine eggs collected shows considerable variation in size and shape, and in the arrangement of the markings, but not in color. On the whole, the eggs are *ovate* in shape, though they are a trifle slender for the 100 x 68 mm. requirement for this class, and not slender enough for the 100 x 55 mm. requirement for the *elongate ovate* class. Some of the eggs are decidedly rounded, others long and narrowed. In each of three sets (two sets of four and one of three eggs, perhaps laid by young females) one egg is small enough to be considered a runt.

The average size of twenty-six Harris's Sparrow eggs (the three above-mentioned runt eggs not included) is .94 x .65 inches. They are, accordingly, larger than eggs of either the White-crowned or White-throated Sparrow, though not of the Fox Sparrow. Ridgway gives the measurements of the Fox Sparrow's egg as .91 x .63 inches; Coues, as .95 x .70; Forbush, as .85 to .94 x .63 to .71; Brewer, as .92 x .70; and Chapman, as .80 x .63 (cf. Bendire).

The Harris's Sparrow is assuredly a longer bird than the Fox Sparrow, but it is more slender, and its greater length is, perhaps, chiefly due to the greater length of the rectrices.

The ground color of the Harris's Sparrow eggs, virtually throughout the series, is *pale glaucous green*.¹ The markings, which vary somewhat in intensity, but not in *hue*, take the form of splotches, spots and scrawls, sometimes in a sort of irregular wreath about the larger end, but more often generally distributed over the whole. The markings are of varying degrees of intensity of *pecan brown*.

Measurements in inches of Harris's Sparrow Eggs.

Nest No.	Egg No. 1	Egg No. 2	Egg No. 3	Egg No. 4	Egg No. 5
1	.94 x .66	.90 x .65	.93 x .66	.92 x .65	
2	.86 x .66	.94 x .67	.95 x .65	1.02 x .64	
3	.95 x .68	.94 x .65	.96 x .65	1.00 x .64	.94 x .65
4	.93 x .65	.95 x .64	.93 x .65	.93 x .59*	
5	.91 x .64	.93 x .65	.84 x .62*		
6	.91 x .67	.92 x .66	.89 x .65	.79 x .60*	
9	.94 x .63	.97 x .65	.99 x .63	.95 x .63	.98 x .64

* These somewhat undersized eggs we have considered runts and have not included them in the averages.

Summary.

The spring season of 1931 was later than that of 1930, and it was probably later than usual. The Harris's Sparrows returned to Churchill from the south on May 27 in 1931, the males in full song, and some of the birds apparently mated. Nest building on the whole did not begin before the end of the first week of June, the first nest, discovered on June 16, containing four slightly incubated eggs. Of the nine sets found, five were of four eggs, two were of five eggs, and two were of three eggs; and one nest was found containing three young and an addled egg. The nests were built chiefly of grass, with a lining of finer grass (no hair, feathers, or plant down of any sort) and were situated usually in mossy hummocks among the stunted spruce trees, often on a small "island," under some sort of low shrub, and on a sheltered, southern exposure. The female only was found to incubate. Early in the season the birds, both males

¹ Underlined words in this description are from Ridgway's *Color Standards and Nomenclature*.

and females, showed but little attachment to the nests; later, however, females which had been flushed usually returned to their eggs within half an hour. But one brood is reared during a season; nests found with fresh eggs in late June or early July had probably been built after the destruction of earlier nests by the savage blizzard of June 18. The female was found to incubate closely, flushing only on near approach; in leaving the nest she flew up to a spruce-top or other relatively high perch, without any attempt at feigning injury.

Sewickley, Pennsylvania.

BIRDS OBSERVED FROM SHIPBOARD IN CROSSING THE NORTH ATLANTIC.

BY F. B. HUTT.

DURING four crossings of the North Atlantic Ocean made in the past four years, the writer has made many notes upon the birds which could be seen from the ship. A few of these are familiar to most Canadian and American ornithologists but most of them are seldom seen except by dwellers along the rocky coast of the continent and still others are found only in European waters. It is hoped that the notes below will give the intending ocean traveller some idea of what species are likely to be seen by careful observation from the deck, and of the regions in which each should be sought.

The sailing dates were as follows:

Eastbound, leaving Montreal, Sept. 16, 1927.

Westbound, leaving Glasgow, Sept. 29, 1928.

Eastbound, leaving Montreal, July 12, 1930.

Westbound, leaving Glasgow, Aug. 31, 1930.

It is evident that the observations hereinafter reported are limited to the summer and early autumn months.

The route followed was the same on all four crossings, namely, along the St. Lawrence River, north of the Island of Anticosti in the Gulf of St. Lawrence, through the Straits of Belle Isle (between Newfoundland and Labrador), across the Atlantic from approximately Lat. N. 52° to Lat. N. 56°, around the north of Ireland and up the Firth of Clyde, west of the island Ailsa Craig to Greenock. One's ticket is made out with Glasgow as the destination, but few large ocean boats go further up the Clyde than Greenock, and passengers are conveyed the last eighteen miles by train. The present notes are confined to "deep water" birds and do not include those seen further inland than Greenock on the Clyde, or Quebec on the St. Lawrence.

The first voyage served chiefly as an introduction to species which were practically all new to the writer, but on subsequent crossings identifications were made much more easily. These

were facilitated in part by consultation of standard works of reference, but somewhat more by inspection between voyages of specimens in the Royal Scottish Museum, Edinburgh, the Victoria Memorial Museum, Ottawa, and the Field Museum of Natural History, Chicago. With the exception of the first voyage, all observations were made with good field glasses. In the following list of the birds seen, only those are included which were positively identified. Except when there was too much fog or rain to see very far, at least ninety minutes of each morning and of each afternoon were spent on the watch so that the list below should represent fairly well the species most likely to be seen.

The nomenclature follows that of the new A. O. U. 'Check-List' but I have (usually) deliberately avoided sub-specific names because it would be impossible to assign one by any criterion other than range and I do not consider that a sound practice.

In the case of the Shag and some of the vernacular names of European races that do not occur on the American coast I have followed the British List.

Alca torda. RAZOR-BILLED AUK.—On September 4, 1930, our boat (westbound) passed Belle Isle between 9 and 10 P. M. On this same day eight small flocks and strings of birds, each numbering from four to twenty-five and believed to be mostly (if not all) Razorbills were seen between 1 and 2 P. M. at a distance estimated to be 150 miles off-shore. Others were noted closer to land. On the previous west-bound voyage, in October, Razorbills were almost abundant in the Gulf of St. Lawrence up to some sixty miles beyond the western end of Anticosti.

It was often impossible to distinguish between the Razorbill and Brünnich's Murre when the birds were at such a distance that their bills were not easily seen. This was the case with large flocks of stolid birds lining the edges of several of some forty icebergs encountered in the Straits of Belle Isle in July, 1930. Those perching were accompanied by a milling guard of birds on the wing. They were evidently Alcidae, and were most likely Razorbills, but distance prevented definite identification.

In European waters, Razorbills were seen 135 miles off the Irish coast, and on all four trips were frequently seen in the Clyde.

Uria aalge. ATLANTIC MURRE OR GUILLEMOT.—This species was seen in the Firth of Clyde on all four voyages. The birds are often deployed in long lines, one of which, seen just outside of Belfast Lough, had over fifty birds in it. The Guillemot is common right up to Greenock. It was not positively identified on the Canadian coast.

Uria lomvia. BRÜNNICH'S MURRE.—Fairly common in the Gulf and

in the Straits of Belle Isle. From the deck it is impossible to say whether one sees this species or the one above, but Brünnich's Murre is common on the American coast and rare in European waters, whereas *U. aalge* is almost abundant off the Scottish coast and *U. lomvia* is there exceedingly rare.

Alle alle. DOVEKIE or LITTLE AUK.—The Dovekie was seen on only one voyage, in October, 1928, when several score were noted in the Gulf of St. Lawrence and others outside the Straits of Belle Isle. Although I have handled a live Dovekie, I found it difficult to distinguish at a distance between this species and other Alcidae. The differences in size are less obvious when the birds are partially submerged. The Dovekie seemed more inclined to patter away from the boat with its wings before diving, whereas the Razorbills and Puffins usually dived as soon as they became alarmed. This species is likely to be seen (on either side of the Atlantic) only in the late fall and winter months.

Cephus grylle. BLACK GUILLEMOT.—Only one specimen was seen and that northeast of Anticosti in July, 1930.

Fratercula arctica. PUFFIN.—This bird was seen on both sides of the Atlantic on all four trips. In October, 1928, Puffins were fairly common from Belle Isle through the Gulf up till about four hours after passing the western end of Anticosti. In September, 1930, one was noted approximately forty-five miles out in the Atlantic from Belle Isle. In the Clyde the Puffin is most common near the rocky island, Ailsa Craig, where so many sea birds nest.

Puffinus puffinus. MANX SHEARWATER.—On the one occasion when the writer stayed on the boat till it reached Liverpool, the Manx Shearwater was found to be quite common in the Irish Sea, particularly between the Isle of Man and Liverpool. It is easily recognized by its entirely black upper parts, with white color below.

Puffinus griseus. SOOTY SHEARWATER.—A single representative of this species was seen about eighty miles out from Belle Isle on September 4, 1930.

Puffinus gravis. GREATER SHEARWATER.—This species was common in the open sea in July and in early September, 1930, but I have no mention of it in notes of my first voyage eastbound in late September, 1927, and saw only three specimens on the return trip in early October, 1928. In July and early September it was usual to see from five to thirty Shearwaters in an hour's watch, and single flocks including up to thirty-four were noted.

The rather erratic flight, just skimming the waves and turning first on one wing, then on the other, reminded me of the somewhat similar flight of the Night-hawk.

Fulmarus glacialis. ATLANTIC FULMAR.—This is the most common bird of the North Atlantic. On every crossing it was noted in abundance almost every day on which we were out of sight of land, with the exception that in mid-Atlantic one might see only two or three, sometimes none, in a watch of over an hour.

On July 16, 1930, when about 700 miles out (eastbound) from Belle Isle, over fifty Fulmars were following the boat at 5 P. M. The next day in mid ocean not more than three were visible at one time till 7 P. M., when eight were following the boat, but on July 18 there were over sixty in our wake most of the day.

It is quite usual to have a flock of Herring Gulls following the vessel as night falls on the first day out from either Canadian or Scottish coasts. When one goes out for his before-breakfast stroll the next morning, the gulls are apparently still there, till a second look shows that the crowd behind is composed entirely of Fulmars with perhaps one or two Kittiwakes, but that there is not a Herring Gull in the lot. Few of the passengers recognize that there has been a change. The Fulmar is not unlike a short-necked gull with the front edge of the wing rounded rather than angular, but its sweeping glides and soaring flight distinguish it from any gull. As one looks back at forty of fifty following Fulmars, their white heads stand out against the water almost like polka dots on dark green cloth.

I noticed in October, 1928, when our westbound boat approached land in daylight, that the Fulmars deserted the boat before land was sighted. It is well known that these birds are less common offshore than in the open sea, but the interesting problem is to find out why they turn back even before land is visible. The same behavior was repeated as we approached the Irish coast in July, 1930. Although visibility was very poor, the Fulmars began to drop astern thirty-five miles out from the point where land was first visible from the deck. My notes on this occasion read as follows:

July 19, 1930.

- 2 P. M. In sight: 50-80 Fulmars, 13 Kittiwakes, 4 Gannets (including one young bird).
- 2:20. No decrease in the number of Fulmars.
- 2:30. A Lesser Black-back and 2 Herring Gulls have joined us.
- 2:40. Only 5 Fulmars left.
- 4:00. Many Herring and Black-backed Gulls behind. No Fulmars.
- 4:15. Land sighted.

From this it was concluded that the signal to return to the open sea was given when the Black-backed and Herring Gulls arrived on the scene. There was no evidence that the gulls were molesting the Fulmars, but the latter seemed to realize that they had reached the limit of their usual range as soon as the coastal gulls appeared on the scene. On both the other voyages the boat came to land during the night and the desertion of the Fulmars could not be studied.

A small proportion of the Fulmars seen were in the dark phase. Many of those observed in July were apparently molting, having lost the inner primaries of both wings.

Oceanodroma leucorhoa. LEACH'S PETREL.

Oceanites oceanicus. WILSON'S PETREL.—It is fairly certain that both of these species were among the petrels commonly seen as much as ten hours out from Belle Isle in September and October. In early September, 1930, one could usually see from one to five in a ten minute watch. One of these which flew up over the deck was identified as Wilson's from its lack of distinct fork in the tail, but I was unable to distinguish between the two species at a distance.

Moris bassana. GANNET.—These great birds were fairly common in the Gulf of St. Lawrence, especially off the western end of Anticosti, and were also seen in the Straits of Belle Isle. On the European side of the ocean Gannets were quite common off the north of Ireland and up the Clyde. One has an opportunity to see one of their few known nesting places as the boat passed that round dome of granite called Ailsa Craig, in the Firth of Clyde. In the summer months there is usually a swarm of sea birds around it and Gannets can be seen headed for the rock from various directions.

Phalacrocorax carbo. EUROPEAN CORMORANT.—The Common Cormorant was seen in the Firth of Clyde on all four voyages but was not identified off the Canadian shore.

Phalacrocorax auritus. DOUBLE-CRESTED CORMORANT.—This species was noted, but not frequently, in the Gulf of St. Lawrence on every trip.

Phalacrocorax graculus. EUROPEAN SHAG.—From the boat it was possible to distinguish this species from *P. carbo* but, had the range of the former overlapped that of *P. auritus*, it would have been impossible to differentiate in the flying bird between these two species. However, since the European Shag is not found in North America, its identification was simplified. It is fairly common in the Firth of Clyde and in the Irish Sea.

Stercorarius pomarinus. POMARINE JAEGER.

Stercorarius parasiticus. PARASITIC JAEGER or ARTIC JAEGER.—Both of these Skuas were noted with varying frequency at different times all the way across the ocean, the Pomarine being the commoner of the two. Both species were more abundant on the western side of the Atlantic than on the eastern, and less common in July (when only two were seen) than in September and October. The inverted V formed by the projecting central tail feathers of the Pomarine Jaeger is not always visible, but one can more often see whether these feathers are broad and rounded, indicating *S. pomarinus*, or narrow and pointed as is typical in *S. parasiticus*.

Two unidentified jaegers were seen at the same time as the Great Skua noted above. The next day, in the course of a two-hour watch in the vicinity of Lat. N. $55^{\circ} 29'$ and Long. W. $39^{\circ} 54'$, a total of forty-two jaegers was counted, including one flight of fifteen. The majority of these were flying south. Most of those identified were the Pomarine, but both species were present. Several of these were in the light color phase. A jaeger was

seen as far inland as Father Point, about 156 miles east from the city of Quebec.

Stercorarius longicaudus. BUFFON'S SKUA OR LONG-TAILED JAEGER.—The long, pointed, central tail-feathers, projecting more than twice as far as those of *S. pomarinus* and *S. parasiticus*, made it quite easy to identify the only Buffon's Skua seen in all four crossings. In this case the distinguishing characteristic was visible even without field glasses. The bird was noted on September 3, 1930, at approximately Latitude N. 55° and Longitude W. 42°, a distance of about 500 miles from the Labrador coast.

Catharacta skua. NORTHERN OR GREAT SKUA.—Only a single representative of this species was seen and that at 8 P. M. on the second day out from Greenock, westbound, September 2, 1930. From the ship's positions taken on the bridge at noon on September 2 and 3, and the fact that a steady speed was maintained for the twenty-five hour interval between those readings, it has been possible to determine fairly accurately by interpolation that this Great Skua was seen at Lat. N. 56°, 08', Long. W. 36°, 57', or practically in mid ocean.

Larus marinus. GREAT BLACK-BACKED GULL.—On every crossing this gull was noted on both the Canadian and Scottish coasts. It was not uncommon to see four at once in the Gulf of St. Lawrence.

Larus fuscus. LESSER BLACK-BACKED GULL.—This European species is distinguished from *L. marinus* by its smaller size (being slightly smaller than the Herring Gull) and by having yellow legs in contrast to the flesh-colored shanks of the larger gull. It is abundant in the Firth of Clyde and off the north of Ireland, making up almost half of the crowds of gulls which follow boats in those waters.

Larus argentatus. HERRING GULL.—This familiar gull was as abundant in the Firth of Clyde as in the St. Lawrence where crowds of fifty or more might be seen following the boat anywhere between Quebec and Anticosti.

Larus delawarensis. RING-BILLED GULL.—A few of these were seen in the St. Lawrence River.

Larus canus. COMMON GULL.—The name of this European bird is a misnomer for it is decidedly less common than several others of the same genus. A few representatives were usually seen in the upper part of the Clyde but the birds did not follow the boat to deep water. The Common Gull somewhat resembles the Kittiwake in size, but is built more heavily and has white spots on the tips of the primaries, which the Kittiwake lacks.

Larus ridibundus. BLACK-HEADED GULL.—In the Tail-o'-the-Bank at Greenock, in Belfast Lough, and in the harbour at Liverpool, the little Black-headed Gull was seen in swarms. It is a versatile scavenger but does not follow the boats out of the harbor as do some of the larger gulls. I have frequently seen it following the plough in Scotland just as its cousin, Franklin's Gull, does in Manitoba.

Rissa tridactyla. ATLANTIC KITTIWAKE.—This gull is the first of its

family to greet the traveller to either shore of the Atlantic, and is quite common on both coasts. On October 4, 1928, at a point forty miles out in the ocean from Belle Isle, nearly 300 Kittiwakes were observed milling about in a dense swarm almost like gnats. Many were in the so-called "Tarrock" plumage of immature birds in which there is a black terminal tail band, a thin, dark mark making an incomplete collar, and a black border on the anterior margin of the wing. In September, 1930, two Kittiwakes in Tarrock plumage were seen twenty-nine hours before reaching Belle Isle, at a distance estimated to be 490 miles from land. Others were seen over ninety miles from the Irish coast, and in July, 1930, at fifty miles from this same coast the ship had a convoy of fourteen Kittiwakes.

This bird is more a lover of the open sea than any of the gulls listed below. On both eastward voyages the Kittiwakes picked up at sea followed the ship up the Clyde well past Ailsa Craig, but on neither westbound journey were any Kittiwakes seen till the second day out from port.

Oenanthe oenanthe leucorhoa. GREENLAND WHEATEAR.—In September, 1927, at about four hundred miles east of Belle Isle, an unrecognized Passerine bird spent most of the day on the boat. It was suspected of being the Greenland Wheatear and this identification was later confirmed by comparison of my notes with descriptions of the bird and by acquaintance with *O. oenanthe* in Scotland. Four others, believed to be of this species but not positively identified, flew around the boat when twenty miles from Belle Isle in October, 1928. The Greenland Wheatear is known to migrate through Europe to Africa and might easily be seen in the autumn months if it is accustomed to using passing boats as resting places.

The above list of twenty-eight species identified from the decks of liners does not exhaust the possibilities afforded the ornithologist by a crossing of the North Atlantic. A few ducks were seen but were not identified. Small flocks of swiftly flying birds thought to be Red Phalaropes were seen in the Gulf of St. Lawrence. A pair of Juncos which came aboard in the St. Lawrence are not included. A great gull which accompanied an outbound vessel met some eighty miles off Belle Isle was possibly a Glaucous Gull, but positive identification was not possible. This species should be seen in these waters by more fortunate observers. Storm Petrels are frequently noted near the European side of the Atlantic, but in spite of careful watch, I was unable to find any in four crossings. These few species and others not mentioned are quite likely to be seen by observers more experienced, more fortunate, and more persistent than the present writer.

*University of Minnesota,
University Farm, St. Paul, Minn.*

THE BREEDING OF THE BLUE-WINGED TEAL IN MARYLAND.

BY O. L. AUSTIN, JR.

THE Blue-winged Teal (*Querquedula discors*), is a common breeding bird on the marshes of the Blackwater River in Dorchester County, Maryland. The first written record of this fact appeared in the 'Maryland Conservationist,' Fall Issue, 1929. The article containing the information is unsigned, but I am assured by the editor of the journal, E. Lee LeCompte, that he himself wrote the following:—

"E. Lee LeCompte, State Game Warden, for some years past, has had an argument with one of the prominent officials of the Bureau of Biological Survey relative to the propagation of blue-winged teal in Maryland territory, that official claiming that the blue-winged teal would not propagate south of New Jersey, Mr. LeCompte claiming that they would and that they have for some years past propagated in the Maryland marshes, but admitted that, due to spring shooting, this species of wild fowl had decreased, owing to the fact that they were killed in numbers during March and up until April 10, and claimed that, since the laws were passed providing for the closing of the wild fowl season on January 31 which provided protection for the mating and nesting birds, the blue-winged teal were coming back into Maryland territory and showing a heavy increase, and, to prove the assertion, Mr. LeCompte authorized W. G. Tregoe, Deputy Game Warden of Cambridge, Maryland, to secure some young birds which had been hatched in that area. These little fellows are very hard to catch and Mr. Tregoe found that he had some job on his hands in securing the birds for scientific investigation and propagation. However, on July 13, Mr. Tregoe secured one and, on July 21, two, and delivered the three birds to Mr. LeCompte who transferred them to the State Game Farm, at which time Dr. H. C. Oberholser of the Bureau of Biological Survey, was notified and requested to send someone to the State Game Farm to make an investigation of proof that these birds were blue-winged teal.

"On July 31, Mr. Talbott Denmead, Assistant United States Game Conservation Officer, examined the birds and pronounced them to be blue-winged teal."

In an article entitled 'The Blackwater Marshes in Summer' in the same periodical, Summer Issue, 1930, p. 8, Talbott Denmead reports the bird life he observed on a trip down the Blackwater River on July 21, 1930. He says:—

"It has long been a question whether the blue-winged teal was a regular breeder in Maryland or only an occasional pair nested in this section. We saw four different broods of little blue-wings, containing a total of 14 or 15 youngsters of various sizes."

Rather vague evidence indicates that the species bred many years ago, on Long Island, New York, and that it may nest occasionally today in the coastal marshes of New Jersey, but, other than the recent Maryland records, the only well substantiated breeding record of the Blue-winged Teal for the Atlantic coastal region south of Rhode Island is one from West Virginia. Why the fact that the species breeds in Maryland did not long ago find its way into ornithological literature is inexplicable, especially when one considers that sportsmen from all over the country, as well as from nearby Baltimore, Washington, and Philadelphia have for many years recognized and utilized Maryland's "Eastern Shore" as one of the finest ducking areas on the Atlantic Coast. The hypothesis that the Blue-winged Teal has begun but recently to breed commonly in Maryland is not tenable, for the oldest marshmen and baymen who live in the neighborhood of the Blackwater marshes claim the bird has nested there in goodly numbers ever since they can remember.

To carry on investigations in the Blackwater region the itinerant ornithologist must make his headquarters at Cambridge, Maryland, and travel fifteen miles southward over an excruciatingly painful road which crosses the marshes to Shorter's Landing, a small settlement in the heart of the Blue-winged Teal country. From there, if fortunate, one may hire a motor boat and reach the more accessible parts of the marsh that lie along the Blackwater River. This stream winds its slow, serpentine way through some twenty-five square miles of flat, low, brackish swamp land which supports a lush flora of rushes, grasses and pond weeds and which is studded with many shallow, muddy lakes and sloughs. Tide waters from Fishing Bay flow ten miles up the river to Big Blackwater Bridge, five miles beyond Shorter's Landing, and occasionally, during extremely high courses of tides backed by winter gales, they inundate the whole area. The main river, many of its tributaries and most of the ponds are navigable to small shallow-draft boats, but to see the greater portion of the marshes one must travel afoot over an exceedingly precarious terrain.

On my first visit to the region on April 28, 1931, accompanied by United States Game Protector Orin D. Steele, I waded about a half mile eastward from the road across the marsh to Backgarden Pond, the largest body of water in the area. There I observed twelve Blue-winged Teal swimming quietly about in mated pairs, close in under the muddy banks. They were fairly tame, permitting approach within twenty yards before they flushed. Then they arose in pairs, uttering faint, soft whistles, to drop again a few hundred yards away around the next point. Frequently, for no apparent reason, a pair arose and flew swiftly across the marshes, the female usually slightly in the lead. Their actions indicated that courtship was in progress. On April 30 I observed five pairs of teal at the same place, going through the same procedure.

From Backgarden Pond a creek of the same name makes a deceptive and tortuous horse-shoe bend eastward and southward and returns unobtrusively westward to join the main river a half mile below Shorter's Landing. On May 6 I chartered a boat at the Landing and chugged up this creek in company with old "Cap'n Billy" Tregoe, the warden who had obtained the young teal for LeCompte in 1929. We covered in a straight line, no more than two miles, but by following the twists and turns of the old-age stream we travelled at least five. In that five miles of stream we jumped thirty-seven pairs of Blue-wings. The birds were sitting in couples along the river bank, and they always flushed together, the female usually being the first to take alarm at our proximity. The first time or two each pair was flushed, the birds flew ahead of us a short way and alighted out of sight around the next bend, but on the second or third flushing they swung out around us over the marsh, the female slightly in the lead, to drop in the stream behind us. Each pair seemed loath to leave the immediate vicinity of the spot whence we first encountered it, and I hoped this was an indication that nesting territories were being established. It was evident, however, that the birds had not yet started to build their nests. We combed all the likely looking spots, especially where we encountered teal, but all we found were seven nests of Black Duck.

The inhabitants of the settlement at Shorter's Landing, who live on and from the marsh and hence are familiar with the habits

of its bird life, assured me the teal would not commence to nest for another two weeks. A friendly and inquisitive people, they were interested in my search and volunteered much valuable information. They told me that whereas the Black Ducks nest from late March through May, the Blue-winged Teal seldom start to lay before the middle of May. Secondly, during the incubation period the birds become very shy; while lone males are to be seen occasionally dabbling in the sloughs or flying over the marsh, the females are rarely encountered until they appear with their broods. Finally, the young usually hatch early in July, and spend most of their time in the sheltered sloughs and up the narrow "reaches" and tributaries of the main river. When disturbed they take refuge immediately in the tall marsh grasses where it is next to impossible to find them. The veracity of all these statements was borne out by my subsequent experiences.

During the following two weeks, spent mostly in scouting the marshes of Wicomico and Somerset counties for breeding waterfowl, although I found Black Ducks nesting in abundance everywhere, I did not observe a single Blue-winged Teal. Nor had any native in that vicinity, of the many I questioned about teal, ever known the species to breed there.

I returned to Dorchester County and went down the Blackwater on May 21 with Game Protector Steele. In traversing the same territory I had covered the preceding 6th of May and encountered thirty-six pairs of Blue-wings, I observed but two teal, both males. We searched all day amid clouds of mosquitoes, but were unable to find a nest.

The next day I took "Cap'n Billy" Tregoe with me and, accompanied by two marshmen from Shorter's Landing who volunteered to help us in our hunt, we went several miles farther down the river. I observed on this trip sixteen male and three female teal, each female accompanied by a single male. Four of us combed both banks of the river for five miles, and investigated every likely spot in the vicinity. We searched along all the small tributaries and around the sloughs and ponds, but although we again encountered many Black Duck nests, we were unsuccessful as to Blue-winged Teal.

During the afternoon I collected one of the lone male birds,

which I found, as was to be expected, fully developed sexually. Its stomach and intestinal tract were empty.

On May 25, Tregoe and I made still another intensive search for nests. This time, with four volunteers to help us (the natives were taking a keen interest in the matter) we covered thoroughly every bit of the marsh from the road across it at the Landing, westward four miles to Harper's Pond, an area of some nine square miles. We encountered five pairs of teal, and four lone male birds, to say nothing of many Black Ducks with broods of young. But the teal nests still remained one of the mysteries of the marsh, along with the will-o'-the-wisp and the "fly-by-night."

We finally located a nest two days later (May 27) not two hundred yards from the houses at Shorter's Landing. It was on the bare, needle-covered ground in an open grove of loblolly pine, fully four hundred yards from the nearest water, ingeniously concealed under an overhanging grass tuft out of which grew an eighteen-inch seedling loblolly. The twelve eggs, carpeted in thick down, were incubated closely by the female bird, which did not flush until one approached to within five feet of her. Even then the cleverly camouflaged nest would not have been noticed by the casual observer. I collected it with the eggs, and found the latter to have been incubated about five days. The embryos averaged four millimeters in length and the optic cups were well formed.

The teal, during the incubation period, as the natives had intimated they would be, proved very shy and retiring. The females were seldom to be seen, but when in evidence were always accompanied by their mates. The non-incubating males of the Black Duck generally congregate in small companies and dally about together in the secluded ponds, but I never observed the male teal doing this. Occasionally two or three might be seen together, but there was no definite flocking.

I next returned to the Blackwater marshes on July 10. I hoped at that time to be able to gain more of an insight into the number of teal that actually had nested there by counting the broods of young, which would be more easily observable than the incubating parents. I first investigated the region from Harper's Pond to Shorter's Landing, running up most of the tributaries of the river

and pushing into the ponds and slough holes. I encountered just two broods of young teal, one mother with five young, the other with eight. The young birds were about one-fourth grown, each about as big as my fist. My troubles began, however, when I endeavored to catch them for banding. We first tried to get near enough to them in the motor boat to dip them out with a crab net. While we could run them down with ease when we surprised them in open water, they invariably dove just before coming within reach of the net, and managed to reach the cover of shore by swimming under water. A favorite device of the mother teal was to swim her brood into water too shoal for the boat, and, swimming rapidly along the bank, to scatter the youngsters one at a time into the marsh grass at widely separated intervals. In trying to keep tab on the whole brood at once, in the flurry and excitement one generally lost track of every one of them. I decided to chase just one youngster at a time. When the first one left the flock to enter the marsh, we beached the boat a few seconds behind it and jumped ashore to chase it. These few seconds, however, were ample to allow it to vanish. Except for the burbling of an excited marsh-wren and the scampering of a meadow mouse, the grass was silent. Not a blade quivered. Two of us combed the marsh for a radius of a hundred yards from the spot where the young teal went ashore, all to no avail. We tried similar tactics on the next bird, and by pure luck, a few minutes after going ashore, we found the youngster a good hundred and fifty yards from the river bank, still travelling unobtrusively through the grass. Evidently when the young teal take to shore they do not squat immediately in the first cover they encounter, but adopt the much safer procedure of going on for some distance before hiding. So agile and expert are they at scooting rail-like through the grass, that their route cannot be traced.

On the next day, July 11, Tregoe and I returned to the area where I had encountered so many teal carrying on their courtship in May, from Shorter's Landing down the river and up into Back-garden Creek. It was in this same five miles, Tregoe informed me, that he had obtained the young birds for LeCompte in 1929. At that time he saw some ten or fifteen broods containing a total of about one hundred young teal. We, however, encountered

but four broods, varying from three to twelve per brood. Again we tried to capture the young to band them, and again we were unsuccessful. The old birds distributed them, one at a time, all along the river bank at our approach, and search as we might, we could not find a single one. In every case the female was alone with her brood, and not once did I observe a male bird assisting in the care of them.

The following day I reconnoitered the area which Denmead had covered in 1930, from Harper's Pond upstream three miles to Big Blackwater Bridge. In Raymond's Pond and Coulson's Pond were one hundred and twenty-seven Black Ducks, many of which seemed to be young of the year already on the wing. We saw one-pair of adult Blue-winged Teal sitting on a mudbank, and two lone males flying over the marshes. But a single brood of seven were all the young we observed. Again we failed to catch any.

The question which arises is, how many Blue-winged Teal bred on the Blackwater marshes this year, and how many young were raised? I was unable to cover thoroughly more than about twenty percent of the marsh, and I did not reach at all the adjoining Transquaking River area, where, also, the natives claim the teal breed abundantly. I observed in all fifty-one partly grown young, and have evidence that at least eight nests were built, which is doubtless but a small fraction of the actual number.

When I first observed the Blue-winged Teal on the Blackwater marshes in late April and early May, the birds were obviously congregated along the main water-courses carrying on their courtship. A few were scattered in pairs in some of the smaller slough holes, but most of them were concentrated in Blackwater River, Backgarden Creek, and the larger ponds. I observed at that time at least fifty-three pairs of birds. There undoubtedly were more, for it is inconceivable that I counted all the teal in the marshes at any one time, but I could not be sure that in some cases I was not counting the same pair twice. As the breeding season progressed, the number of birds observed dwindled markedly. This may have been because some of the birds previously seen had moved on to breed elsewhere, but I believe it more likely that all of them were still there, but were not observed

because they became more retiring and secretive in their habits with the start of actual nesting. If the nests were all built as was the one found in the dry lands fringing the marshes, and if after hatching many of the young stayed back in the acres of impenetrable marsh grass instead of coming out into the open watercourses, which is a plausible and likely hypothesis, the discrepancy between the fifty odd pairs observed during courtship and the seven broods of young seen after hatching is accounted for.

Let us assume that fifty pairs of Blue-winged Teal, certainly a most conservative estimate, nested during 1931 in the Blackwater area. It is safe to venture that at least half of them were successful in rearing fifty percent of their broods to the point where they were able to fly and to take care of themselves. Granting that twenty-five pairs of birds laid average clutches of ten eggs apiece, there were produced during the season five young per pair, or one hundred and twenty-five young birds on this one small stretch of marsh land. It is certainly sufficient, conservative in the extreme as it is, to warrant taking the area into consideration as a source of supply of Blue-winged Teal and preserving it for posterity as such.

*U. S. Bureau of Biological Survey,
North Eastham, Cape Cod, Mass.*

NOTES ON IMAGINARY SPECIES OF RAMPHOCELUS.

BY LUDLOW GRISCOM.

IN Part 2, 'Birds of North and Middle America,' 1902, Mr. Ridgway gathered together all that was known about various so-called "species" of tanagers of the genus *Ramphocelus*, but did not venture to dispose of the various names, his consistent practice throughout this great work. In the great majority of cases the types are unique and the source of origin is a guess. Many years of active exploration have now intervened, and we know that the species of this genus are active, gregarious and conspicuous birds of forest openings and cleared country, almost always exceedingly common, and favorites with professional collectors because easily found, easily shot and easily skinned. In fact *Ramphocelus* is the ideal subject for the "six minute skin." It is obviously impossible for there to be six lost species of these birds in Central America, and the present study was undertaken to see whether, in certain cases at least, some reasonable interpretation of the known facts could not dispose of one or more of the names that have been based upon these birds. One or two interesting points have been discovered, and a long series of comedies of errors have been unearthed.

One of the most important steps in understanding the variations in this genus was Chapman's evidence for the hybrid origin of *R. chrysonotus* Lafr., the parents being *flammigerus* and *icteronotus*. One at least of the intermediates in the collection of the American Museum of Natural History agrees exactly with the description of *R. inexpectatus* Rothschild, and this so-called species is undoubtedly such a bird, and never came from Panama at all. Berlepsch (Fifth Int. Ornith. Congress, 1910, p. 1061) has already reduced *R. chrysopterus* Boucard to the synonymy of *R. chrysonotus*. In this case also Panama, as the country of origin, is not definite, and I do not believe that *R. chrysonotus* should be accredited to Panama on this evidence. Now that Chapman has shown where this bird comes from and its probable origin, the chances of its occurring in Panama are exceedingly remote.

A second item of interest was Zimmer's demonstration that *R. luciani* Lafresnaye was the same as *R. melanogaster* (Swainson), and that consequently it could not have come from Cartagena, Colombia (cf. Proc. Biol. Soc. Wash., 1929, p. 97). Bangs and I have also compared the type of *luciani* with Peruvian material and we agree absolutely with Zimmer. This still leaves a point to be cleared up, however. If we examine the literature of *R. luciani* all references to this species as a bird of Colombia go back to Lafresnaye's type, and all records from Peru are by authors who did not know of *R. melanogaster* (Swainson). But Lawrence recorded *R. luciani* from Panama (Lion Hill) on the basis of birds sent him by McLeannan, and Panama records in the literature go back to Lawrence. This is one of the few cases where definite specimens from a definite locality exist. The question naturally arises, if *R. luciani* is the same as *R. melanogaster* of Peru, what is the Panama bird called *luciani* by Lawrence? Thanks to the authorities of the American Museum of Natural History, Lawrence's birds are before me, and I have been able to compare them with the type of *R. luciani*. They prove to have nothing to do with that species.

A mere glance suffices to show that the adult male specimen is *R. uropygialis* (considered below); every point in the descriptions and the published critiques tallies perfectly. The bird differs from *dimidiatus* in being blacker, less red, on the head, throat and back but close examination shows that this difference is due to the feathers being much more extensively black basally than in *dimidiatus*. The red of the Panama bird is scarlet, not crimson, and orange scarlet on the rump. The minute red tips to the short, stiff feathers allow the dusky bases to show through as a dark veiling. While, therefore, it would be entirely correct to describe this bird as "maroon-headed," this color is an effect, rather than an actual pigment. Similarly the more extensive black bases to the feathers of the abdomen produce a dusky or flammulated appearance wherever the webs are in the least discomposed.

The female of Lawrence's *luciani* is quite different from the female of any other species of *Ramphocelus* but is closest superficially to the females of *R. passerini costaricensis* and *R. flammigerus*. The head, back, wings and throat are dusky brownish,

the back with lighter edgings to the feathers, which are olivaceous, becoming yellower distally; rump brilliant orange; underparts orange-rufous, redder on chest and under tail-coverts. This somewhat anomalous bird, whatever it may prove to be, shows at least that *R. dunstalli* Rothschild is a redescription of the same thing. Rothschild's type was a male, which had not lost the orange-rufous underparts of immaturity. It is also obvious that this female is utterly different from the female of *R. melanogaster*.

If we grant that these Panama birds are *R. uropygialis* Bonaparte, what is that bird? While proof is, of course, impossible, without comparing the type I am convinced that the bird is a hybrid between *R. dimidiatus* and *icteronotus*, the two species which, as I know personally, occur together in the same general region. If the Lawrence's male ("luciani") be put between these supposed parents, it is a perfect combination of the two, the black of *icteronotus* dominant over the red of *dimidiatus*, and the crimson of *dimidiatus* dominant over the yellow of *icteronotus*. Exactly similar conclusions are reached upon comparing the females. The dark reddish brown of *dimidiatus* crossed with the olive green of *icteronotus* produces the dusky-brown of *uropygialis* with the olive wash. The color of the rump is a similar combination, the red being dominant. The dull reddish brown of *dimidiatus* crossed with the yellowish of *icteronotus* produces the orange-rufous shade on the underparts of *uropygialis*.

This "lost" species (*R. uropygialis* Bonaparte 1851), was said to have come from "Guatemala," and has never been rediscovered. Several good descriptions and critiques of the type exist, as well as a colored plate, the former all written, however, by people who had never been able to make direct comparison with Lawrence's Panama birds or an authentic specimen of *luciani*. In this connection it should be noted that there is a serious discrepancy between the descriptions and the colored plate by Keulemans. The red of the rump and abdomen in the plate is far too dark, and the dusky spots on the rump are apparently imaginary. Curiously enough while Ridgway's description is an accurate copy of European ones, his key character for *uropygialis* is the spotted versus unspotted rump, a character which is not mentioned in Selater's writings on this bird, with the type before him! It

is apparent that *uropygialis* is a close relative of the *dimidiatus-melanogaster* group, which reaches its northern limit in eastern Chiriquí (Pacific Slope). As Bonaparte and Verreaux were both notoriously inaccurate as regards the localities for their Central American birds, even if I had not the evidence about *R. uropygialis* stated above, I should unhesitatingly expunge it from the list of Guatemala birds. Every reasonable probability would render such an origin impossible, knowing what we now do about this genus.

It is highly probable that *R. affinis* Lesson is exactly the same bird, and that the corrected locality, Colombia, is right. There are large areas of Colombia where *dimidiatus* and *icteronotus* occur together, and where a hybrid specimen might be found.

Only one more supposed species remains to be considered and that is *R. festae* Salvadori, from Chiriquí. This bird, a male, is *R. passerinii* with a band of dull red across the breast, the sides tinged with red, and with scarlet anal feathers. It was reported to be "much smaller" than *passerinii*, but this proves to be entirely erroneous. The measurements of the type show that it is exactly the same size and I cannot imagine how this impression arose. I have no hesitation in declaring *festae* to be an abnormal erythrism of *R. passerinii*, a well known phenomenon in other groups of red tanagers.

The following summary is suggested:—

Ramphocelus chrysonotus Lafresnaye = *R. flammigerus* × *icteronotus*, cf. Chapman.

Ramphocelus chrysopterus Boucard, 1891 (Panama in error) = *R. chrysonotus*, i. e. *R. flammigerus* × *icteronotus*.

Ramphocelus inexpectatus Rothschild, 1897 (Panama in error) = *R. chrysopterus* × *icteronotus*.

Ramphocelus luciani Lafresnaye, 1838 (Colombia in error) = *R. melanogaster* (Swainson) of Peru.

Ramphocelus festae Salvadori, 1896 (Chiriquí) = *R. passerinii costaricensis* Cherrie of Chiriquí and southwestern Costa Rica.

Ramphocelus affinis Lesson, 1840 (Mexico in error; changed to Colombia later, probably correctly) = *R. dimidiatus* × *icteronotus*.

Ramphocelus uropygialis Bonaparte, 1851 (Guatemala in error; probably Panama or Colombia.) = *R. dimidiatus* \times *icteronotus*.
Ramphocelus dunstalli Rothschild, 1895 (Panama, probably correctly) = *R. dimidiatus* \times *icteronotus*.

"*Ramphocelus luciani*" Lawrence, 1861 (nec Lafresnaye) (Lion Hill, Canal Zone) = *R. dimidiatus* \times *icteronotus*.

Museum Comp. Zool.,
Cambridge, Mass.

A NOTE ON THE FOOD OF THE HUNGARIAN
PARTRIDGE.

BY LEON KELSO.

ALTHOUGH brought into the United States as early as the eighteenth century, little has been written concerning the food habits of the Hungarian Partridge (*Perdix perdix perdix*) in this country. The contents of eighty crops and gizzards of these partridges have been examined in the Division of Food Habits Research, Bureau of Biological Survey, U. S. Department of Agriculture, one by E. R. Kalmbach, the rest by the writer. Sixty-one of the birds were collected in central and northeastern States, the others near Pullman, Washington. Their distribution as to months is as follows: January, 1; February, 11; March, 3; April, 5; May, 2; June, 5; July, 1; August, 3; September, 3; October, 14; November, 26; December, 3; and 3 on unknown dates.

Seeds and green herbage gleaned from the fields made up the major portion of their food. The Hungarian Partridge seems to be more exclusively a gleaner than any other of our game birds. Among uncultivated plants a decided preference was shown for ragweed (*Ambrosia*) and smartweeds (*Polygonum*), especially *P. convolvulus*, the black bindweed.

Vegetable matter comprised 94 per cent and animal matter only 6 per cent of the food. Gravel constituted 28.2 per cent of the gross stomach contents. The following is a tabulation of the vegetable and animal foods.

Vegetable matter	Number of stomachs in which found	Percentage by bulk of the food
Wheat (<i>Triticum sativum</i> and other species) ...	27	20.6
Leaves of cultivated cereals (Poaceae).....	32	16.8
Corn (<i>Zea mays</i>).....	19	14.9
Ragweed (<i>Ambrosia artemisiæfolia</i> and <i>A. elatior</i>).....	35	7.4
Barley (<i>Hordeum vulgare</i>).....	17	6.4
Green foxtail-grass (<i>Chaetochloa viridis</i>).....	17	4.7
Oats (<i>Avena sativa</i>).....	9	4.0

Vegetable matter	Number of stomachs in which found	Percentage by bulk of the food
Black bindweed (<i>Polygonum convolvulus</i>)	24	3.7
Yellow foxtail (<i>Chaetochloa glauca</i>)	17	2.8
Vegetable debris	5	2.5
Buckwheat (<i>Fagopyrum fagopyrum</i>)	2	2.0
Tarweed (<i>Madia racemosa</i>)	4	1.8
Alfalfa, leaves (<i>Medicago sativa</i>)	6	1.1

The remaining 5.3 per cent of the vegetable food was composed of fractional percentages of the following items, many occurring as mere traces:

Juniper (*Juniperus communis*); spruce (*Picea* sp.), leaf; witch-grass (*Panicum capillare*); spreading witch-grass (*Panicum dichotomiflorum*); barnyard-grass (*Echinochloa crus-galli*); finger-grass (*Syntherisma sanguinalis*); slender finger-grass (*Syntherisma villosa*); smartweed (*Polygonum pensylvanicum*); lady's thumb (*Polygonum persicaria*); water smartweed (*Polygonum punctatum*); knotgrass (*Polygonum aviculare*); Douglas' knotweed (*Polygonum Douglasii*); pigweed (*Chenopodium album*); tumble weed (*Amaranthus graecizans*); elm (*Ulmus americana*); smooth-leaved crowfoot (*Ranunculus abortivus*); mouse-ear chickweed (*Cerastium viscosum*); cinquefoil (*Potentilla* sp.); upright yellow wood-sorrel (*Oxalis stricta*); yellow procumbent wood-sorrel (*Oxalis corniculata*); hop-clover (*Medicago lupulina*); clover (*Trifolium* sp., *T. repens*, *T. pratense*) (the last five items occurring as leaves); wahoo (*Euonymus atropurpureus*); spotted spurge (*Euphorbia maculata*); amsinckia (*Amsinckia intermedia*); goose-grass (*Galium Aparine*); rib-grass (*Plantago lanceolata*); tickseed (*Bidens comosa*); thistle (*Cirsium* sp.); wild lettuce (*Lactuca integrata*); dandelion (*Taraxacum officinale*); leaves; and snowberry (*Symporicarpos* sp.). The plant items were present as seeds or akenes unless otherwise noted.

Animal matter, also occurring as small or fractional percentages or traces:

Grasshoppers and crickets (Orthoptera: *Trimerotropis* sp., *Encoptolophus sordidus*, *Melanoplus* sp., *M. femur-rubrum*), *Gryllus assimilis*, Oedipodinae; bugs (Hemiptera: *Nabis ferus*, *Lygaeus kalmii*, Miridae, *Lygus pratensis*, *Ligyrocoris* sp., *Blissus leucop-*

terus, *Nysius* sp., Cicadellidae, *Agallia sanguinolenta*, Aphididae); beetles (Coleoptera: *Systema taeniata*, *Longitarsus* sp., *Anthicus cervinus*, *Hypnoidus obliquatulus*, *Sitona hispidulus*, *Calligrapha similis*, *Hypera punctata*, *Smicronyx* sp., Anthicidae, Carabidae *Phytonomus nigrirostris*); caddice-fly (Trichoptera); butterflies (Lepidoptera: Pyralididae); flies (Diptera: *Syrphus* sp., *Mesogramma* sp., *Tipula* sp., Sarcophagidae); Wasps (Hymenoptera: Proctotrupidae, Bethylidae); ants (Formicidae: *Formica* sp., *F. fusca*, *Lasius* sp., *L. niger americanus*, *L. claviger*, *Myrmica* sp.); millipedes (Diplopoda: Julidae); centiped (Chilopoda: *Lithobius* sp.); Phalangida.

Miss A. M. Swords assisted in determining the Coleoptera; W. L. McAtee, the Hemiptera, and J. R. Malloch, the Diptera and Hymenoptera.

Like other game birds, the young for the most part eat insects and other animal matter. The stomach of one contained eighteen kinds of insects, these constituting approximately one hundred per cent of the contents, plants being represented by only a trace of grass and legume leaves. This bird had eaten fifty-seven individuals of a small beetle, the clover-root curculio (*Sitona hispidulus*), four of the lesser clover-leaf weevil (*Phytonomus nigrirostris*), and two of the large clover-leaf weevil (*Hypera punctata*). All three are more or less injurious.

Data from ninety-six crops and gizzards collected in Washington and examined by students of the Washington State College were given to the department by J. Paul Miller. Of these stomachs, 79 were collected in October, 6 in November, 2 in January, 3 in February, and 6 on unknown dates. *Triticum sativum* and perhaps other species of wheat constituted sixty-two per cent of the contents; seeds of *Polygonum convolvulus*, eleven per cent; vegetable debris, mostly from wheat and other cereals, twenty-four per cent; and grains of *Avena fatua*, 1.7 per cent. The remaining plant material included traces of *Lappula* sp., *Lycopodium* sp., *Trifolium* sp., *Madia racemosa*, *Bromus brizaeformis*, *Symphoricarpos alba*, *Sanguisorba annua*, *Medicago* sp., *Navarretia intertexta*, *Amaranthus retroflexus*, *A. graecizans*, *A. blitoides*, *Cirsium lanceolatum*, and moss. At this time of the year the birds took only 0.89 per cent of animal matter. A grasshopper, *Melanoplus* sp.,

however, comprised 40 per cent of the contents of one stomach, and a coulee cricket, *Peranabrus* sp., 85 per cent of another. Other items of animal food included bugs (Lygaeidae) and ants (Formicidae). Gravel comprised 40 per cent of the total contents, one crop containing 90 per cent of grinding material.

*U. S. Biological Survey,
Washington, D. C.*

SONG SPARROWS OF MICHIGAN.

BY WILLIAM G. FARGO.

MICHIGAN is one of the larger states. Its north and south extent, including Isle Royale in Lake Superior is about 430 miles and its east and west extent is about 420 miles. The Upper Peninsula of Michigan has been placed by the U. S. Biological Survey in the Canadian Life Zone as also the northern part of the Lower Peninsula. The middle section of the Lower Peninsula is placed in the Transition Zone and the southern and southwestern counties of the state in the Upper Austral Zone. Thus is indicated a considerable variation of fauna and flora.

Lake Michigan bounding the Lower Peninsula on the west is 60 to 80 miles wide and so forms a natural barrier to crosswise migration. Certain western forms of bird life that penetrate Wisconsin and Illinois and breed there are seldom if ever seen east of Lake Michigan.

In the Upper Peninsula of Michigan, however, certain western forms meet or merge with eastern forms. Here we find *Pedioecetes phasianellus campestris*, Sharp-tailed Grouse; *Troglodytes aëdon parkmani*, Western House Wren; and *Melospiza melodia juddi*, Dakota Song Sparrow.

A study of some 300 skins of *Melospiza melodia beata*, Mississippi Song Sparrow and *Melospiza melodia juddi* in the Museum of Zoology of the University of Michigan, at Ann Arbor, reveals that the breeding form of Song Sparrow in Ohio and the southern half, at least, of the Lower Peninsula of Michigan is *Melospiza melodia beata*. Those from the northern counties of the Lower Peninsula have some characters of *juddi*, but are much nearer *beata*.

The 70 skins from the Upper Peninsula of Michigan show a decided resemblance to *juddi*. The breeding birds at the eastern end of the Upper Peninsula appear to be about midway between the two forms. In the vicinity of Marquette there is a somewhat abrupt change to a closer affinity with *juddi*. The breeding birds from Keweenaw Peninsula and those immediately south and

southwest of it are even closer to *juddi*, as are the Isle Royale birds. Most of those from the Keweenaw region and Isle Royale approach closely the coloration of typical *juddi* from northeastern North Dakota, of which this museum has forty specimens. The North Dakota birds, however, are slightly paler and the superciliary line is a bit wider and of a paler gray.

Selecting from these true *juddi* examples from the northeastern counties of North Dakota 19 adult males and 12 adult females, taken between April 14 and June 10 and all in fresh spring plumage, we find a consistent peculiarity which appears not to have been noted in the published accounts of *juddi*. We refer to the fact that the wing and tail measurements are nearly equal in a majority of these 31 specimens.

These 19 *juddi* males have an average wing-length of 69.5 mm. and an average tail-length of 70 mm.; while the 12 females have an average wing-length of 66 mm. and average tail-length of 66.7 mm.; or a mean difference of tail minus wing for these 31 specimens of 0.6 mm. Of these 19 males, ten have the wing equal to the length of the tail or only varying one millimeter one way or the other.

The average measurements of 33 Upper Peninsula of Michigan male Song Sparrows, taken from Marquette eastward between June 5 and 12 are: wings, 68.14 mm.; tails 69.4 mm., difference 1.26 mm., and of 8 spring females, wings 63.9 mm.; tails 65.4 mm., difference 1.5 mm.

While 24 similar spring males from the southern part of the Lower Peninsula show averages: wings 66.2; tails 70.8 mm., difference 4.6 mm. and 6 comparable females: wings 63.75; tails 69.0 mm., difference 5.25 mm.

From which it appears that an important character of *juddi* may be the nearly equal length of wing and tail. The tail averaging 0.6 mm. longer than wing in the series of 31 fresh spring plumages measured. On the other hand *M. m. beata* from the southern part of the Lower Peninsula of Michigan has wing lengths averaging 4 to 5 mm. less than the tails. Consistently the Upper Peninsula birds intermediate between *beata* and *juddi* have correspondingly shorter wings as we proceed eastward from Marquette. Thus averages of the seven most easterly males

included in the above mentioned 33 males taken from Marquette eastward are: wings 66.0; tails 68.3 mm., difference 2.3 mm. These 7 males were from eastern Mackinac County (Hessel to Cedarville).

The Dakota Song Sparrow was described as a new sub-species by Dr. Louis B. Bishop (Auk, 1896, pp. 132) where he says it is:

"Similar to *Melospiza fasciata* [= *M. melodia*] but with the ground color of the upper parts paler, especially the superciliary streak and sides of the neck, and the white of the lower parts clearer, the dark markings on the breast restricted and more sharply defined against the ground color."

Of 10 specimens (6♂, 4♀), wings average 67.6 mm. (63.2-71.4 mm.); tails average 70.6 mm. (68.4-74.0 mm.).

Thus the average difference of tails minus wings of this mixed-sex series of ten equals 3 mm., while the corresponding average difference of our series of 31 males and females (19♂, 12♀) is 0.6 mm. This difference is the same whether figured as a direct summation of all the tails of the 19 males divided by 19, minus the corresponding summation of the wings divided by 19; and this result averaged with a similar result obtained from the 12 females, or whether figured as a direct summation of the tails of both sexes minus the summation of the wings of both sexes.

Perhaps the results Dr. Bishop originally obtained might have been different if a larger series had been available. Recently Dr. Bishop has suggested to the writer that the longer wings of *Melospiza melodia juddi* as compared with the wings of *Melospiza melodia beata* may be explained by the longer migration flight of the former. The Dakota race apparently winters "south to Texas and New Mexico" while the latter, so far as we know, mostly remains farther north, in the Ohio and Mississippi valleys. Moreover, it appears from the available material, that the northern range of *beata* is below latitude 45° or thereabouts, while the Dakota race, or a form closely resembling it, breeds far to the north in Canada.

In these studies of *Melospiza melodia beata* from southern Michigan, local areas were noted where all the available adult specimens were materially larger or smaller than the general average for this race. Some fifteen miles north and east of Lansing a series taken over a length of six miles shows a uniformly large size with one male

having a length of 170 mm., wing 70 mm. and tail of 76 mm., while near Concord, forty-five miles southwest of Lansing, was an area of small individuals, all typical *beata*. Such local size variations are discernible in various species from man down. If correct averages are to be obtained it therefore becomes necessary to examine a considerable number of individual specimens.

*Museum of Zoology,
Ann Arbor, Michigan.*

GENERAL NOTES.

Destruction of Petrels by Cats.—In the October 'Auk' Mr. A. H. Norton is quoted as saying that Leach's Petrel "has decreased alarmingly for no apparent reason." When the Massachusetts Audubon Society made an excursion to Duck Island we were all appalled to see a large number of cats and to find many wings and feet of Petrels outside their burrows, while the light house keeper told us that the cats dug the birds out. I found one colony some distance from the houses which did not seem to have been disturbed. Mr. Winthrop Packard told us that on previous visits they had tried to buy the cats or have some of them disposed of. Considering that the Petrels lay but one egg, one can see that they might readily decrease alarmingly under these circumstances.—ANNE E. PERKINS, *Gowanda State Hospital, Helmuth, N. Y.*

Eastern Brown Pelican on the South Carolina Coast in Winter.—On the afternoon of January 25, 1932, my wife, Mr. F. M. Weston, of Pensacola, Fla., and I saw nine Eastern Brown Pelicans off the beach at Folly Island, S. C., a few miles from Charleston. We were all near an inlet and were sweeping the sea with glasses in search of a possible gannet, when a large bird appeared suddenly in the fields of view, dropping down almost as soon as seen, to the water. Each of us recognized it instantly as a pelican, though such a bird was far from our minds.

Intensive search with the glasses about the spot where it dropped, revealed a closely bunched group of large birds which were riding the waves just as pelicans should, but the distance was at least half a mile and so we retreated to the sand dunes above high-water mark and gained elevation at which observation was easier. Before five minutes had passed, another pelican appeared from the southward and flew over the group on the surface, passing along the beach directly in front of us. As it passed, the group below rose and all doubt vanished. They headed in toward the beach and proceeded to fish directly in the surf, being at times hardly a hundred yards away. There were five in the air, and as we walked along, four more appeared from behind and joined the first ones, making nine in all.

This is the first time the species has been seen in winter on the South Carolina coast and it appears to be the farthest north winter occurrence on the Atlantic coast at this season. There are two records for Long Island, S. C., a few miles north of Folly, for February 22, 1910, but these must be considered early spring arrivals rather than winter visitors. This species usually arrives from the south in late February or early March. When we stood watching the pelicans in and above the surf, Mr. Weston remarked that, except for the color of the water, we might well be on the Gulf coast of Florida! Another pelican was observed at the same locality on the next afternoon, January 26.—ALEXANDER SPRUNT, JR., *92 South Battery, Charleston, S. C.*

Anhinga Nesting in North Carolina.—In the October 'Auk,' p. 592, is an account of a nest of the Anhinga found May 24, 1931, at Orton Pond, N. C., containing three eggs. On June 27, following, a party of which I was a member found probably the same nest in exactly the spot described with two young birds on a tree close by.—MARION C. MACNEILLE, *Unionville, Conn.*

Mute Swan in New Jersey.—*Sthenelides olor* is described merely as "straying casually to the coast of New Jersey" in the last Check-List. This hardly does justice to its real status in the state. The bird has become completely naturalized and a number of pairs breed in a wild state in suitable ponds along the coast from the vicinity of Asbury Park to Bayhead. At Point Pleasant there has for a number of years been a breeding pair on a pond just south of Arnold Avenue.

The birds, young and old, gather in the fall into flocks sometimes containing as many as 35 individuals, and fly about seeking feeding grounds. As the smaller ponds freeze some are trapped and wing-clipped, but a number fly south, and it is then not uncommon to see companies of these birds feeding about the northerly third of Barnegat Bay (north of Seaside Park), where they remain as long as there is open water.

But it is not safe to consider swans seen in the northerly portion of Barnegat Bay in winter definitely as Mutes. I have seen *Cygnus columbianus* in the same locality occasionally in recent years. The latter species is now more frequently encountered as a migrant on the Jersey coast and is occasionally present during February.—CHARLES A. URNER, *Elizabeth, N. J.*

A Greater Snow Goose From Georgia.—On November 24, 1931, about noon, I saw a Snow Goose just across the river on a sand bar with a flock of gulls. It was not difficult to collect the bird, and it proved to be an adult male. The head and neck had many rusty markings.

Remembering the confusion often caused by amateur bird-students like myself, recording such easily confused subspecies as the Lesser and Greater Snow Goose, the dried skin was sent to Mr. Frederic H. Kennard. He identified it as a Greater Snow Goose (*Chen hyperborea atlantica*).

The measurements given below are his except the length, which is mine, measured in the flesh after the bird had stiffened somewhat, recorded in inches and afterward transposed into millimeters.

Length—790 mm.; Wing—460; Tarsus—right 90, left 90; Middle toe and claw—right 88, left 86 (toenail somewhat worn); Exposed culmen—66; Depth of bill—37; Tail—130 (worn); Number of feathers in tail—16.

An inquiry of Mr. Arthur H. Howell about the records of the Biological Survey, brings the reply that they have no records of the Snow Goose from Georgia, except two casual allusions in old publications.

This bird then, taken about two miles east of Savannah, is the first specimen taken in Georgia, as the records now stand. The skin has been

presented to the Charleston, S. C., Museum.—IVAN R. TOMKINS, U. S.
Dredge Morgan, Savannah, Ga.

The Downy Young of Some Foreign Species of Ducks and Geese.—Students often experience great difficulty in assembling specimens of foreign birds, particularly in natal and juvenile plumages, in this country for study. It often happens that critical specimens are located in small private collections where their existence is known to few people. For this reason I am prompted to place on record the fact that my personal collection contains the specimens of downy *Anatidae* listed below. These specimens will be loaned to interested students at any time. All these birds were hatched at the aviary of my friend the late Mr. J. V. de Laveaga, San Mateo, California, who kindly presented me with such specimens as from time to time died there. Since the birds were hatched in captivity, positive identification, sometimes difficult to accomplish in the field in the case of young waterfowl, was secured. For the same reason it is possible to give the exact age of each specimen.

<i>Casarca cana</i>	Age six days.
<i>Anas poecilorhyncha poecilorhyncha</i>	Age two days.
<i>Anas bahamensis bahamensis</i>	Age nine days.
<i>Nettion castaneum</i>	Age one day.
<i>Nettion flavirostre</i>	Age one day.
<i>Metopiana peposaca</i>	Age two days.
<i>Chloëphaga leucoptera</i>	Age one day.
<i>Chloëphaga rubidiceps</i>	Age six days.

In addition to the above listed foreign species, I have in my collection, specimens of the downy young of most North American ducks including those of all the American Eiders.

I have placed the Bahama Pintail in the genus *Anas* Linné, as do Phillips (Nat. Hist. Ducks, II, 1923, p. 344) and Peters (Check-List Bds. of the World, I, 1931, p. 167), rather than in the genus *Dafila* Stephens (A. O. U. Check-List, 4th Ed., 1931, p. 46) as the plumage of the downy young of this species is strikingly typical of young of the genus *Anas* as restricted by the A. O. U. 'Check-List' (*loc. cit.*). In so doing, I do not disregard the genus *Dafila* for the species *Dafila acuta*. Conversely, on account of the dissimilarity of the downy young, I retain use of the genus *Nettion* Kaup for the Chestnut-breasted and Yellow-billed Teal whose young in no way resemble those of Mallard-like ducks. This nomenclature is in accord with that of the A. O. U. 'Check-List,' 4th Edition; but is contrary to the practice of Phillips and Peters (*supra. cit.*) who disregard the genera *Dafila*, *Nettion* and *Querquedula* and treat all pintail and teal as species of the genus *Anas*. I believe that the natal plumages of ducks, recognized as being so demonstrative of relationships often rendered difficult to appraise in adult plumages, are important indications of generic relationships.

Phillips (Nat. Hist. Ducks, vol. I-IV, 1922-1926) describes the downy

plumages of all the ducks listed above except that of the Rosy-billed Pochard. It therefore seems advisable to record the natal plumage of *Metopianas peposaca* as follows: (Colors from Ridgway's Color Standards 1912).

Very similar to the corresponding plumage of *Nyroca americana*, plumage patterns identical, but species under consideration darker and colors more intense throughout. Crown and upper parts, sepia. Sides of head, yellow ochre. Lower surface and wing-, scapular-, and rump-patches of upper surface, amber yellow becoming slightly darker on breast where it merges into yellow ochre of sides of head and neck. Soft parts noted twelve hours after death as follows: Upper mandible, pale flesh color, nail, flesh pink. Lower mandible, salmon color. Iris, brownish olive. Feet and legs, mainly olive yellow, brighter on webs and darker on outer surfaces of tarsi.

The natal plumage of *Chloëphaga leucoptera* is described by Scott under the synonym *C. megallanica* (Repts. Princeton Univ. Exped. to Patagonia 1896-1899, 1912, vol. II, pt. III, pp. 420-421). I am unable to find a description of the plumage of the downy young of *Chloëphaga rubidiceps* in the literature at my disposal, hence shall describe it as follows: Crown, fuscous, hind neck and upper surface, except wing-, scapular-, and rump-patches which are white, olive brown. Lores and narrow stripes above eyes extending just behind them, black. Rest of plumage including forehead, throat, foreneck and sides, entire under surface and stripes between crown and black eye stripes, white; but underlaid by shorter deep mouse gray down which gives it a grayish tinge. A few olive brown hairs on the cheeks, foreneck and ventral region lend a darker tone to these areas. Specimen received too long after death (48 hours) to render color notes of soft parts reliable. In the dried skin, the feet and legs are brownish, both mandibles are black except the nail which is horn colored.—JAMES MOFFITT, 1879 Broadway, San Francisco, Calif.

Blue-winged Teal Nesting in New Jersey.—*Querquedula discors* may be positively added to the casual breeding birds of New Jersey. Our first suspicion that the bird was actually breeding in Troy Meadows was in May, 1929 when we found it as late as May 30 (Griscom and the writer) calling, and when four individuals, including one which looked like a bird of the year, were seen by J. L. Edwards and the writer August 3. The bird considered as a juvenile was very white below and showed little or no color in the wing. The following year, May 25, 1930, Edwards and the writer in the same locality found a Blue-winged Teal which was very nervous, repeatedly coming over us and calling. The bird evidently was nesting, and the fact was definitely established later in the season by Mr. Edwards and Lester L. Walsh, both of whom found females with young. There were probably two broods for those found by each observer were of different size. Again in 1931 at least one pair of the birds was present at the opening of the breeding season but whether they nested I have not learned.—CHARLES A. URNER, Elizabeth, N. J.

Returns from Banded Mallards.—For six or seven years past I have been turning out Mallard ducks, incubator hatched, on my Montcalm Farms, near Phoenixville, Pa. In the spring of 1930 I banded (with Biological Survey bands) and released 1000 birds and in 1931 about 1500 and I am now receiving returns some of which are listed below. The most surprising are those from Iowa, Minnesota and Kansas showing that these birds travel west as well as north and south.

All of the following were released in the spring of 1930 and were shot or captured at the localities and on the dates given, with one exception in 1931: Cqrney Point, N. J., March 13 and March 11; Raritan River 3 miles below New Brunswick, N. J., January 19; Milton Del., March 21; New Castle, Del., November 26; Taylor's Bridge, New Castle Co., Del., January 19; Elkton, Md., January 21 and November 18; Cecil Co., Md., December 6, 1930; Rock Point, Md., January 16; Hampton, N. H., October 11; Highgate Springs, Vt., October 2; St. Claire Flats, near Pt. Trembles, Mich., October 16; four miles south of Burlington, Iowa, November 17; Barrart Lake, six miles south of Le Center, Minn., October 4; twenty-five miles west of Pittsburg, Kas., October 4.—FRANK B. FOSTER, *Franklin Trust Building, Philadelphia*.

A Gyrfalcon (*Falco rusticolus candicans*) at Sault Ste. Marie, Michigan.—On January 21, 1932, as Deputy Sheriff Willard Welsh was driving along the St. Mary's River road just below the Soo, he saw what he thought was a large hawk eating a Ruffed Grouse by the side of the road. Welsh stopped his car and the bird flew across a field, lighting on a fence post. A shot from his .38 police special revolver killed the bird. The distance paced 95 yards, a remarkable shot for a remarkable bird.

Mr. Welsh took the bird to F. R. Vigeant, a taxidermist, to have it mounted. Mr. Vigeant had never seen a bird like it but thought it was a falcon of some kind. I was called and on sight of the bird knew at once it was one of the Gyrfalcons. I realized it should go to our Universiy Museum at Ann Arbor and Mr. Vigeant backed me up. Mr. Welsh kindly agreed to give it to the Museum and it was sent down in the flesh.

On receipt of the bird Dr. Josselyn VanTyne, curator of birds, wrote me "The magnificent gyrfalcon arrived and is now safely made up into a very fine study skin. The bird is an adult female and weighed 1,970 grams minus its crop and stomach contents. It was very fat. Adult specimens of gyrfalcons are rare even in large collections. In our very large series from Greenland less than 10% are adults."

Prairie Chickens have been increasing in this locality for several years. The first authentic report for the eastern part of the Upper Peninsula of Michigan that came to my attention was for May 2, 1923, when Dr. K. Christofferson saw a pair nest building at Chatham, Alger Co., some 110 miles west of the Soo. November 8, same year, the Doctor saw a flock of over thirty same locality. Last winter several flocks were reported and January 16, 1931, saw a flock of over 100 just south of town. This

year they are even more plentiful. Our gyrfalcon was not "eating a Ruffed Grouse," as supposed, but a Prairie Chicken and I so reported when I sent the bird to Ann Arbor. Dr. VanTyne in his letter says "The bird had inside it 140 grams of Prairie Chicken, meat, bones and feathers," and called attention to the following: "Albert Lane (Auk, Vol. 29, 1912, p. 239) published a note on a gyrfalcon taken near Madison, Lac Qui Parle Co., Minn., on December 11, 1894 and said it had the remains of a Prairie Chicken in its stomach."

Dr. VanTyne also states: "It is of course *Falco rusticolus* but the subspecific divisions of that species are still very uncertain. For although the extremes are very different, we have so little material from the breeding range that it is not very clear how we should name them." In a later letter Dr. VanTyne writes me "The bird had best be called *Falco rusticolus candicans*. The bird is very like the adult male from Godthaab, Greenland, figured by Walter Koelz (Wilson Bulletin, Vol. 41, 1929, Dec., p. 209, fig. 5)." The under tail-coverts of our bird were virtually pure white, just a few minute specks of black on the shafts of a few feathers.

The wing measured 395 mm. Coloring of flesh parts as follows: Bill—near Pale Medici Blue; tip, black. Feet—near Reed Yellow (both of these from Ridgway's Color Standards and color Nomenclature, 1912). The cere and orbital skin dark grey. The bird is now No. 68,416 in the Museum's bird collection.—M. J. MAGEE, Sault Ste. Marie, Michigan.

White Gyrfalcon (*Falco rusticolus candicans*) at Wayland, Mass.
—On the afternoon of December 19, 1931, while watching a Sparrow Hawk on the bank of the Sudbury River in Wayland, about eighteen miles west of Boston, a large white bird was noted flying up river which on a casual glance was taken for a gull. Fortunately the bird came down river, raised to pass over the trees on the side of the road where I was standing and soared directly over me at an elevation of not over thirty yards, when it was easily identified as a falcon with long pointed wings, a rather long rounded tail and white below with the exception of a few dark streaks along the sides and towards the breast.

Over the marsh its flight was rapid with occasional short periods of sailing and sudden sharp turns either upward or to the side. As it dipped low the back showed nearly white with some streaks or bars of a dark color either gray or brown.

Most of the time while the bird was in sight, possibly ten minutes, its flight was rather low over the marsh where there are several pond holes not then frozen over and where a few ducks are usually to be found nearly all day, but when I last saw the bird it was flying north over the course of the river and at an elevation of about one hundred feet.—HERBERT E. MAYNARD, M.D., 464 Commonwealth Ave., Boston.

Another Golden Eagle Captured in Georgia.—I am in receipt of letters from Mr. S. A. Grimes of Jacksonville, Fla., telling of the recent presentation to the Zoo in that city of a live specimen of the Golden Eagle

(*Aquila chrysaetos canadensis*). This bird was caught on November 5, 1931, in steel traps at Bellville, Evans County, Georgia, about fifty miles west of Savannah by Benny Johnson. Mr. Johnson writes that "The bird has been seen in this part of the country for some time. His mate is around here now." In 'The Auk' for January 1931, I reported the capture of a Golden Eagle in Oglethorpe County, Ga., on November 1, 1930. When I examined this bird in life here a few days later it was not at all fierce and allowed a close approach so that the apparent tameness and behavior of the bird reported by Mr. Grimes in the Jacksonville Zoo seems to tally with the actions of the one taken in Oglethorpe County. These records are the only ones I can find of the Golden Eagle in Georgia, at least within recent years.—EARLE R. GREENE, 642 Orme Circle, Atlanta, Ga.

Sex of Incubating Killdeers.—In the October 1930 issue of 'The Auk,' Pickwell records his observations on the sex of incubating Killdeers. He states that usually only one bird was seen giving the distress simulation or showing great concern about the young, that the incubating birds collected were all males, and that he has never seen the exchange of incubating birds. Recent experiences I had with a nesting pair are so different that they seem worthy of record.

A Killdeers' nest was reported on the campus in the spring of 1930. Several attempts were made at photographing the distress reactions of the birds and a few hours were spent in a blind. Both birds alike would try to lure me away when I first appeared. This failing they went through the usual simulations of an injured bird, at times getting quite violent in their actions. Both birds performed about equally often and I photographed whichever one happened to be in the most favorable position. While I was in the blind the bird not incubating would slip up and quietly take the place of the incubating bird. I was able to get two photographs showing this exchange. No efforts were made to collect the birds in order to determine their sex.—KENNETH GORDON, Department of Zoology, Oregon State College.

Breeding Willet of New Jersey.—Following the discovery in 1930, by Julian K. Potter and others, of several breeding Willet, probably *Catoptrophorus semipalmatus semipalmatus*, near Fortesque, N. J. J. L. Edwards, John F. Kuerzi and the writer made an effort to determine the extent of the breeding ground and the number of pairs present in 1931. Two full days were spent covering the salt marshes from Maurice River to Bayside. The dates were June 25 and 26. We found an unexpectedly large number of birds, scattered in groups over eleven miles of undrained salt marsh. We found two nests with eggs and saw over 200 individuals and estimated that there must be at least 125 pairs present. The birds are not molested, except by Fish Crows, a potent reason being the immense numbers of biting flies; and old natives state that the colony has always existed in that section of the state.—CHARLES A. URNER, Elizabeth, N. J.

Brünnich's Murre in Southern New Jersey.—On January 23, 1932, E. B. Rohrer and the writer saw a Brünnich's Murre (*Uria lomvia lomvia*) at the end of the breakwater above Cape May City. The bird was seen clearly with good glasses at very close range and its distinguishing characteristics carefully noted. The flesh-colored stripe on the mandible near the gape as well as the dark band across the breast showed plainly that it was a mature bird in winter plumage.

The bird remained near us for several minutes, diving constantly and giving us exceptionally fine views. Then it departed under water and we did not see it again.—W. STUART CRAMER, 201 E. King Street, Lancaster, Pa.

An Albino Puffin.—During the past summer, while stationed near Cape Whittle on the North Shore of the Gulf of St. Lawrence, a specimen of a partial albino Puffin (*Fratercula arctica arctica*) was presented to me by Mr. Ruben Jones of Wolf Bay who collected and preserved it fourteen years ago. The skin is well made up according to the style which Mr. Jones learned from M. Abbott Frazar when he worked on that part of the coast in 1884 and had been taken at Wolf Bay where there are extensive breeding colonies.

The specimen appears to be white except the wings and tail, and a few dark feathers at the base of the bill. Further examination discloses a few dark feathers among the scapulars, and a considerable mottling of white in the wings and tail, especially in the wing coverts. The bird is normal in size and has the bill development characteristic of the breeding season.

—R. A. JOHNSON, State Normal School, Oneonta, New York.

A Sooty Tern from Georgia.—On September 19, 1928, I shot a strange tern about a mile west of Savannah. It was the day after one of the usual West Indian hurricanes, though the storm had moderated somewhat when it reached this place. The skin was sent to the Carnegie Museum, and probably is still in the collection there. Mr. W. E. Clyde Todd identified it as a Sooty Tern (*Sterna fuscata fuscata*), apparently the first record for Georgia.

Some weeks later two more partly mummified birds of the same species were found some miles closer to the sea. Another was probably the same, but was too badly spoiled for careful identification. Likely all were driven in by the same storm.—IVAN R. TOMKINS, U. S. Dredge Morgan, Savannah, Ga.

Eggs of Royal Tern in Laughing Gull's Nest.—In reviewing notes made on Royal Shoal Island, Pamlico Sound, May 29, 1931, an item of possible interest came freshly to my attention. This island, or "shell lump," has been known for many years as a breeding place of the Royal Tern (*Thalasseus m. maximus*). During the present season I observed four species nesting on the narrow confines of sand, shell, beach-grass and myrtle. Besides *T. m. maximus* there were Cabot's Terns (*T. sandvicensis acuflavida*) in small numbers, a few Common Terns (*Sterna h. hirundo*), and about

500 Laughing Gulls (*Larus atricilla*). The Royals numbered about 2400. Without exception the Laughing Gulls had crowded their rather sparse nests in the deepest beach-grass, and beneath the thickest of the myrtle. The Royal Terns, after their usual fashion, had deposited their eggs on the open beach, most of which was covered with short, coarse beach-grass. At this date a very few of the Royal Terns were hatched, but none of the other three species. In examining the nests of *L. atricilla*, I was surprised to find three different nests, deep in the myrtle, each of which contained one egg of the Laughing Gull, which was in perfect order, and one egg of the Royal Tern. In each case, apparently, both eggs were being incubated by a Gull that was entirely unconscious of the alien presence. I continue to be puzzled by the motive of *T. m. maximus*. Has a similar observation been recorded?—ROBERT P. ALLEN, National Association of Audubon Societies, 1775 Broadway, New York, N. Y.

Franklin's Gull at Madison, Wisconsin.—The evening of August 15, 1931, a Franklin's Gull (*Larus pipixcan*) was seen on the bar in University Bay, Lake Mendota. It was associated with Ring-billed Gulls and Common Terns. The following morning two juvenile Bonaparte's Gulls had joined the group. On this and subsequent occasion it was observed that the Franklin's Gull always stayed with the Ring-billed Gulls rather than with the Bonaparte's Gulls when the flock was dispersed. Various attempts to take this gull were unsuccessful until the morning of August 18, when Mr. John Main assisted me. The bird was a male, in molt, and weighed 279.5 grams. The primaries corresponded very closely with Dwight's description (Gulls of the World, Fig. 302) of the second winter plumage. This species appears to be an uncommon migrant in this region, the last previous record being in 1911 (Conover, 'The Auk,' 1912, p. 388).—A. W. SCHORGER, 168 North Prospect Ave., Madison, Wis.

Pomarine Jaegers (*Stercorarius pomarinus*) off Key West, Florida.—On December 28, 1931, while crossing from Key West to Havana, a distance of about ninety-five miles, a flock of Pomarine Jaegers (*Stercorarius pomarinus*) was noted following the boat for perhaps a third of the journey.

At about 2:30 in the afternoon and when about thirty miles from Key West, eight birds were counted. Of these only one was in the white-bellied phase, one in the entirely dark plumage and the other six nearest approaching the dark phase but with rather whitish lower bellies. They were associated with a small flock of Herring Gulls which had been following the boat since leaving Key West.

By four o'clock, when about half way between the two ports, twelve Jaegers were following. Of these four were in the white-bellied phase, two all black, and six with extensive dark underparts. The protruding, twisted tail feathers were more conspicuous in birds of either the complete white-bellied or dark phase.

Howell (Florida Bird Life, 1932, p. 253) records three other occurrences for Florida; in 1914 west of Palm Beach; in 1918 at the mouth of the St. Johns River, and the last in 1928 in about the same locality as the above—thirty miles south of Key West.—PHILIP A. DUMONT, *Berkeley, California*.

Late Nesting of Barn Owl.—On May 26, 1931, I banded two juvenile Barn Owls (*Tyto alba pratincola*) at Bond Hill, Cincinnati, Hamilton County, Ohio. On November 26 just six months later I banded five juveniles from the same nest which no doubt were the second brood of the same pair of adult birds. As it is unusual for Barn Owls to nest so late in the season, at least in this section, the fact seemed worthy of record.—CHRISTIAN J. GOETZ, *Cincinnati, Ohio*.

A Snowy Owl Record for 1932, in Columbiana County, Ohio.—A Snowy Owl (*Nyctea nyctea*) was seen here January 12, a comparatively warm day. It flew over, not very high, and alighted in a chestnut tree a short distance away. Several hours later, in the evening, it was again seen by my brother not far from the same tree. "A large white bird" (probably the owl) was reported as seen on numerous occasions in a small wood on a neighboring farm. Several persons tried to shoot it, but fortunately were unsuccessful. Apparently this bird was the same owl, seen by the writer.—LONY B. STRABALA, *Leetonia, Ohio*.

Eastern Whip-poor-will (*Antrostomus vociferus vociferus*) Wintering, Alabama.—On January 6, 1931, Duncan McIntosh of Fairhope, Ala., found a dead Eastern Whip-poor-will at Fly Creek, near Fairhope. The bird was brought to me, and I sent it to Mr. Francis M. Weston of Pensacola, Fla., who verified the identification. Mr. Weston mentioned the incident in his "Season" notes in the March-April, 1931 issue of 'Bird-Lore.' His statement that the Whip-poor-will is "a rare but regular winter visitant" was based on its occurrence in Escambia County, Fla., and not on actual acquaintance with it in Alabama. Howell, in his 'Birds of Alabama,' states that the Whip-poor-will "occurs as a summer resident in the mountains. During migration it may be found in all parts of the State." He makes no mention of its possible occurrence as a winter resident. The present instance constitutes, as far as I can find out, the only known winter occurrence of this species in Alabama.—HELEN M. EDWARDS, *Fairhope, Ala.*

A Sun-bathing Hummingbird.—It is not often that a hummingbird finds occasion to alight on the ground, and when one does so for the purpose of taking a sun-bath the event is probably unusual enough to be placed on record. Shortly after noon on a hot July day I saw an immature male Anna's Hummingbird alight on a bare patch of ground and, heading directly away from the sun, stretch out flat on the soil with wings fully extended and the feathers of the back erected. Again some two months later, at about the same time of day, the identical action was repeated on the

lawn by the same individual. In both cases he remained on the ground less than a minute. As I have never seen a similar performance by any other hummingbird, I should assume this to be an individual rather than a general habit.—ROBERT S. WOODS, Azusa, California.

Crested Flycatchers in Ohio in Mid-November.—On November 16, 1931, the writer was engaged in some field work in bottomland along Alum Creek, two miles north of Westerville, Delaware County, Ohio. Suddenly my attention was attracted to two birds flying overhead at a height of about 150 feet. No plumage coloration could be seen, but from the body flight pattern, it was possible to identify the birds as Northern Crested Flycatchers (*Myiarchus crinitus boreus*).

The two flycatchers alighted for a moment in a tall cottonwood tree at a distance of 200 yards, then proceeded in a southwesterly direction. A minute later two more birds flew overhead, followed by a single bird and then another group of two. One of these last birds was collected to verify the identification and now may be found in the Wheaton Club collection at the Ohio State Museum, Columbus, Ohio. The bird, a male, when the skin was prepared, was found to be in excellent condition with a large amount of fat. Two more birds were seen later, making nine in all.

The Wheaton Club records for the central Ohio region show that the median date of departure of the Crested Flycatcher in the fall is September 23 and the latest date ever recorded was October 8, 1927. The presence of the species at such an extremely late date—more than a month and a half later than usual—can perhaps be explained by the unusually warm summer temperatures which prevailed during much of October and November. On the date of collection November 16, 1931, the writer listed twenty-eight species of wild plants found in a flowering condition.—LAWRENCE E. HICKS, Dept. of Botany, Ohio State University, Columbus, Ohio.

Late Occurrence of the Barn Swallow in New Brunswick.—On November 8, 1931, and again on November 9, I saw a Barn Swallow (*Hirundo erythrogaster*) at my home in Memramcook, N. B. On the first date the bird which was in juvenal plumage, was observed from 9 to 10 A. M. on the south side of the house catching flies in the characteristic swallow manner and also resting on the radio aerial wire. At noon it was seen again about the farm buildings. The second morning it was feeding at the same spot as before where insects were probably more plentiful. During the two preceding nights there were several degrees of frost but the days were clear and the sun soon warmed the air. There was no question about the identification of the bird as all field marks were noted even to the white spots near the end of the tail on the under side. Dr. H. C. Oberholser kindly informs me that the latest date for the Barn Swallow in the records of the Biological Survey for the maritime provinces of Canada is September 29, 1892 for St. John, N. B., so that my observation seems worth recording.—REID McMANUS, JR., Memramcook, New Brunswick, Canada.

Blue Jays Gathering Twigs for Nests.—For three years I have observed Blue Jays gathering twigs for their nest which each season was built in a triple fork at the top of a catalpa tree so that it was completely hidden from the ground. The dead twig ends were taken from two locust trees and a quince shrub. The bird would select a twig and seizing it well back in the bill and about three inches from the tip would pull and twist it until it broke off. It was then critically inspected and in the great majority of cases dropped to the ground sometimes even after flying with it to the nest tree. Both birds gathered twigs in 1931 when building was begun April 7, but one took more interest in the work than the other. In other nestings less material was gathered and less rejected, the old nests being probably repaired and not entirely rebuilt.—*MYRA KATIE ROADS, Hillsboro, Ohio.*

Northern Raven in New Jersey.—The Check-List, Fourth Edition, describes *Corvus corax principalis* as "formerly" occurring in the coast region of New Jersey. The species has never been completely extirpated. My first record from Barnegat was April 13, 1924 and my last, two birds which were well seen January 17, 1932 by several observers. Between those dates I have 27 excellent sight records, the maximum being five on November 10, 1929. These are divided as follows: January two records; February three; March two; April two; May one; June two; July none; August five; September two; October three; November three; December three. The birds stick rather closely to one section of wooded swamp, open salt marsh, bay and beach. It is possible that the remnant surviving receives occasional additions from the Pennsylvania haunts of the species since there have been two recent records of Ravens about Boonton, N. J., half way between the two areas of permanent residence.—*CHARLES A. URNER, Elizabeth, N. J.*

Carolina Wrens Roosting in Abandoned Hornets Nests.—Some time during the fall of 1927 my father found, and carried to the house, a very large nest built by white-faced hornets (*Vespa maculata*). This nest was hung up in an out-building, and no attention was paid to it until late in the winter when we found, to our surprise, that a pair of Carolina Wrens had enlarged the opening, and were using it as a nightly roosting place.

The birds continued to roost there until spring; when they carefully constructed a nest of their own, in the top of the hornets' nest, away from the opening. For some reason, they later abandoned this home in favor of one in a near-by bird box.

When fall came we waited with interest to see if they would again take up their old abode. Going out to look one frosty morning before daylight, we heard them stirring in the nest, and they used it regularly from then on. This they have repeated every year until the present winter.

Another nest was placed in the same building last fall, and the resident pair, whether or not the original 1927 individuals we do not know, immedi-

ately took up quarters in the enlarged opening of the new nest. In their new home they are plainly visible, and they have allowed us to study them with flashlights. They do not seem in the least disturbed when we suddenly turn a light upon them. The outer bird roosts with one wing spread across the opening, and this, perhaps, shuts out most of the light.

One morning, just at daybreak, I went out to the building where the nests are hung, lighted a small gas stove, and placed before it a bucket of water over which a layer of ice had frozen. Returning in a few minutes, I found both birds perched on the rim of the bucket, as near to the fire as they could get. Whether the heat or the light was the attraction I cannot say, but they presented as charming a bird picture as I have ever seen.

An account of this new use for old nests of hornets was given my high school class in biology, and it happened that one of the students, French Page, had had for three or four years a pair of Carolina Wrens nesting behind a picture in his sleeping room. In the fall of 1930 he found a hornet's nest and placed it in his room. In the spring of 1931 the birds adopted it, built their own home in it, and successfully raised a brood of young there.

The readiness with which they have taken up such homes has led us to wonder how freely birds may utilize these abandoned nests outdoors. It might be of interest to bird students to investigate such nests as they find.—MAURICE BROOKS, *French Creek, W. Va.*

A Hornet-Wren Nest.—The note by Mr. Louis B. Kalter (Auk, XLIX, p. 90) on a Carolina Wren roosting in an old hornets' nest recalls a somewhat similar incident. On June 11, 1916, Mr. W. A. Goelitz and I were hunting in the low dune and pine region along Lake Michigan at Beach, Lake County, northeastern Illinois. Under the outside eaves of an old barn we found a hornets' nest and a House Wren singing on the roof above it. After searching the barn for the Wren's nest Mr. Goelitz climbed up to investigate the hornets' nest. He found that a well thrown rock had made a large hole in it and the House Wrens had used this for a home in which they had laid eight eggs. The nearest houses were about a mile and a half from here.—COLIN CAMPBELL SANBORN, *Field Museum of Natural History, Chicago, Illinois.*

A Late Fall Occurrence of the Wood Thrush, in Cheshire County, New Hampshire.—On November 14, 1931, while I was crossing through a piece of young-growth hardwoods, a thrush calling *pip pip* was heard a short distance back of me on a coniferous knoll. It soon came into view and was instantly recognized as *Hylocichla mustelina*. By easy stages it worked nearer, passing close by me and affording an excellent view, continuing its course through the small piece of woodland. It spent fully as much time on the ground as it did on low perches to which it frequently mounted, but did not make any attempt to feed. Its *quit quit* was followed by the scold note *pip pip* when a hound appeared. Whereon the thrush crossed the main highway into another hardwood growth and was lost to

sight and hearing. This date is thirty-five days later than Forbush (Birds of Massachusetts and Other New England States, Vol. III, p. 388) records as the latest fall date for Massachusetts, which I believe has been somewhat later than for any previous New Hampshire record.—LEWIS O. SHELLEY,
East Westmoreland, N. H.

The Bohemian Waxwing in Ohio.—On December 31, 1930, I was walking along the Miami River about two miles northeast of Quincy, Logan County, Ohio, with my sister, Mrs. Herman Allinger. In a small side valley we saw a bird which on closer examination proved to be a Bohemian Waxwing (*Bombycilla garrula*). It was observed with 8 x binoculars at a distance of less than twenty feet as it was feeding on the fruit of some rose bushes. It was identified by its large size, the gray color of the underparts, the rufous markings about the head and especially by the rufous under tail-coverts. This waxwing was alone and was much tamer than any Cedar Waxwing (*Bombycilla cedrorum*) I have ever seen.—A. LAWRENCE CURL, *Quincy, Ohio.*

Occurrence of the European Starling (*Sturnus vulgaris*) in the James Bay Region.—At Moose Factory, Ontario, on October 11, 1931, I saw a flock of seven European Starlings flying about and performing characteristic aerial evolutions. The hour was near noon and an extended snow-flurry was just ending. The birds coursed back and forth over a small refuse heap behind the residence of the district manager of the Hudson's Bay Company, while I watched them at short range for about two minutes with x 6 binoculars. Finally they flew to a small island in the Moose River in front of the settlement and alighted on some low willows. Moose Factory is situated on an island in the Moose River about ten miles up-stream from the southern part of James Bay. The mainland near this post was connected with the outside world by railway early in September, 1931.—HARISON F. LEWIS, *Ottawa, Canada.*

The Black and White Warbler (*Mniotilla varia*) on the South Carolina Coast in Winter.—The first specimen of *Mniotilla varia* ever to be taken in South Carolina in winter, was secured by the writer on Edisto Island, about forty miles south of Charleston, of February 10, 1932. In company with Mr. F. M. Weston, of Pensacola, Fla., I was investigating bird life in a patch of woods about a mile from the salt marshes, and among many other small species, Mr. Weston described this warbler. We watched it with glasses for a few moments, and as the occurrence was so thoroughly unusual, decided to secure it. This was done, and the specimen is now in the Charleston Museum.

We were under the impression that it was the first time it had occurred in winter in this state, but my friend Mr. Herbert R. Sass tells me that he saw a warbler of this species in his garden in the city of Charleston, in December, 1906. Mr. Sass does not collect birds and his specimen was

not secured, so that the Edisto Island bird remains the first to be actually taken in the state in winter.—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

Cerulean Warbler (*Dendroica caerulea*) in North Dakota.—On May 28, 1931, the writer found on the banks of the James River at Jamestown, North Dakota, a fine specimen of a male Cerulean Warbler.

The bird was seen in the top of a small tree and at a distance not greater than thirty feet at its nearest approach. It remained in the vicinity for several minutes and its song was plainly heard while several very favorable observations were made.—FRANK GILLIS, Anoka, Minn.

Sycamore Warbler in Central West Virginia.—On May 8, 1931, I was conducting a high school class in biology on a field trip along the Buckhannon River, in Upshur County, West Virginia. Noticing an unusual warbler feeding in some small white oaks, we turned our glasses on it and found it to be an adult male Sycamore Warbler (*Dendroica dominica albiflora*), the first any of us had ever seen.

Conditions were perfect for observation, and every member of the class secured a careful look at the bird through 6 x glasses. The white line in front of the eye was carefully checked, and, although no means of taking the specimen were available, we felt positive about the identification.

The Sycamore Warbler has been previously recorded from Kanawha County, West Virginia, but conditions there are much more southern than here. The observation was made in the Alleghany foot-hills, at an elevation of about 1400 feet, and, so far as the writer knows, is the first for the species in this part of the state. Its range is thus extended about one hundred miles northward.—MAURICE BROOKS, French Creek, W. Va.

Wilson's Warbler in Western Virginia.—In view of the paucity of published records of Wilson's Warbler (*Wilsonia p. pusilla*) for Virginia, outside of the Washington, D. C., region, I would record two specimens from western Virginia. The first I report by the kindness of Mrs. Mary D. Dise of Glen Rock, Pa., who picked up a warbler's wing from a pile of feathers at Craig Healing Springs, Craig Co., Virginia, on October 6, 1930, and sent it to me. It was identified by Dr. H. C. Oberholser as belonging to Wilson's Warbler. She also saw several living birds at the same time. The other is a male, with the black of the crown only narrowly veiled, which I took in a willow thicket at the Big Spring Pond, near Lexington, Virginia, on September 14, 1931.—J. J. MURRAY, Lexington, Va.

A Winter Record of the Meadowlark in Cheshire County, New Hampshire.—The most interesting find of our 1931 Christmas Census was a Meadowlark; the first time I have found this bird present after the southward migration. My companion first noted the bird as it flushed when we were crossing an open mowing. It alighted in practically the same spot from which it arose. We drew nearer and it repeatedly flushed as

we cautiously moved toward it. At no time did the bird appear actually alarmed. It pirouetted so that the black V on the yellow breast, and the white outer tail feathers as it flitted its tail, were clearly noted at short range and with binoculars.

Except for a comparatively heavy snowfall on January 3, lasting on the ground until the 7th, the ground was bare until late January. During January (1932) the Meadowlark has been flushed often in a mowing at the edge of the village, and as late as the 14th, when the weather was decidedly summery and the temperature rose above 60°.—LEWIS O. SHELLEY, *East Westmoreland, N. H.*

The Giant Red-wing in Ohio.—There has been a strong suspicion ever since the description of *Agelaius phoeniceus arctolegus*, that this race includes Ohio among the states visited during its migration. To the best of my knowledge, however, up until this year, none of the specimens of red-wings taken within the borders of this state have been recognized as belonging to this large northern race. It is, therefore, desirable that we put on record the capture of three adult male specimens of *Agelaius phoeniceus arctolegus* in northern Ohio during the past year. These are now preserved in the Cleveland Museum of Natural History and their identification was corroborated by Dr. Harry C. Oberholser. They include one bird taken at Auburn in Geauga County, about twenty-five miles southeast of Cleveland, on March 22, 1931, by Emerson Kemsies, and two birds taken at Bay Point in Ottawa County, about three miles north of Sandusky, on October 5, 1931, by Omar E. Mueller.—JOHN W. ALDRICH, *Cleveland Museum of Natural History*.

Yellow-eyed Boat-tailed Grackles Again.—Since the subject of grackle eyes was brought up last spring, I have carefully watched many of these birds, and have examined two freshly killed males, but have yet to see an adult bird, *male or female*, with other than yellow eyes. These observations have covered most of the intervening months from April, 1931, to February, 1932. No territory has been covered other than from Savannah to the sea.—IVAN R. TOMKINS, *U. S. Dredge Morgan, Savannah, Ga.*

Color of the Iris of the Boat-tailed Grackle in Virginia.—In view of the recent discussions as to the color of the iris of *Cassidix mexicanus major*, a note from the northern part of its range may be of interest. In company with Messrs. J. E. Gould and A. O. English, of Norfolk, Va., on January 21, 1932, I observed a small flock of one adult male and four females or immatures on the shore of Back Bay in south-eastern Virginia. We had a clear view of the male and noted that the iris was definitely yellow.—J. J. MURRAY, *Lexington, Virginia*.

Further Notes on the Iris of the Boat-tailed Grackle.—In this connection I quote here from a letter received from Mr. Earle R. Greene, President of the Atlanta, Ga., Bird Club, in regard to his observations about

Brunswick, Georgia, during Christmas week, 1931: "Norman Giles and I made special observations on the Boat-tailed Grackles and there were hundreds of them in evidence . . . every adult male had pale yellow eyes." Brunswick is two hundred miles south of Charleston and only about seventy-five miles north of Jacksonville, so that the Georgia birds are also universally yellow-eyed as well as the Carolina ones.

To pursue the matter into south Florida, I wrote to Mr. Harold H. Bailey of Miami and asked him for his experience with the birds of the Everglades section. He replied as follows: "I know the birds during the breeding season in April and May have yellowish-white irides; so pronounced that it is not necessary to kill any when in their breeding colonies." Mr. Bailey however, seems to think that there is a seasonal change, a theory with which I cannot agree. His observation in regard to the Everglades birds however, supports the yellow-eyed condition and it must be recalled that he is on the ground as a resident and not as a casual visitor. So we see then, that the yellow irides are common in south Florida also.—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

The Bronzed Grackle in Lincoln County, Montana.—Two Bronzed Grackles (*Quiscalus quiscula aeneus*) were observed by the writer near Fortine, in extreme northwestern Montana, June 22, 1927. A single bird of this species was seen in the same locality April 22 and 23, 1929.

The Bronzed Grackle is a common summer resident in eastern Montana, but becomes rare westward toward the mountains. There appears to be no previous record of its occurrence in the state west of the continental divide.—WINTON WEYDEMEYER, Fortine, Montana.

Cardinal at Woodsville, New Hampshire.—An adult male Eastern Cardinal (*Richmondena c. cardinalis*) was seen in Woodsville, N. H. on December 7, 1931. The bird was carefully observed at close range through field glasses, so identification was certain. The elation, natural to an ornithologist, felt in recording so rare a visitor was somewhat dampened by learning that two Cardinals were brought into an adjoining town as cage birds during the spring of 1931 and later released when their owner learned that keeping them in captivity was unlawful. That the individual seen on December 9 was one of the pair released seems probable as the locality frequented by this bird is less than one mile distant.

The winters in Woodsville are severe, temperatures of forty below zero Fahrenheit having been recorded and temperatures of twenty below or lower occurring almost every season. Snow frequently lies at depths varying from twelve to eighteen inches throughout the greater part of the winter.

One wonders what chance of survival the bird would have under such conditions. On December 6, the mercury dropped to nine below zero and people living in the vicinity noticed the bird protecting its feet with its feathers and showing other signs of apparent discomfort. Fortunately, the present season is one of the mildest ever known and as a food supply is

assured at several feeding stands, the bird's chances of wintering seem better than if dependent on its own resources in a normal season.—
WENDELL P. SMITH, Wells River, Vermont.

Common Redpoll Collected in Northern Ohio.—On March 16, 1931 the writer, while accompanied by Mr. Robert H. McCormick, collected a Common Redpoll (*Acanthis linaria linaria*) at Little Cedar Point, Lucas County, Ohio. The bird was engaged in feeding in several weedy patches along the margin of an extensive marsh area, one-half mile south of the Lake Erie shore. This particular individual was exceedingly active, darting rapidly back and forth between weedy patches and several fence posts or mounting to some telephone wires or tree tops to emit repeatedly from three to five rapid indescribable notes which recalled at the same time those of both the Purple Finch and the Goldfinch.

The bird, a male, measured as follows:—length 128 mm., wing 72 mm., tail 68 mm., tarsus 15 mm., and was in excellent condition. The skin is now No. 3807 in the Wheaton Club collection of the Ohio State Museum.

On March 29, 1931, the writer observed another solitary individual for a few minutes in the same locality. The records of the Wheaton Club show that the species has not been recorded from central Ohio since February 17, 1923. William L. Dawson (Birds of Ohio) regarded the Redpoll as "of very rare occurrence" and "casual anywhere." Lynds Jones (Birds of Ohio) stated that he had never seen the species in Ohio and regarded it as of very rare occurrence. Thus it seems to be of value to record what is apparently the only recent collection of the species in the state.—LAWRENCE E. HICKS, Ohio Division of Conservation, Columbus, Ohio.

The Migration and Winter Range of the Labrador Savannah Sparrow (*Passerculus sandwichensis labradorius*).—With the recognition of this race in the new A. O. U. 'Check-List,' the writers have made a critical study of the very large series in the Museum of Comparative Zoology and the local collection in the Peabody Museum at Salem to determine whether specimens could be brought to light from areas south of the breeding range. We had the great advantage of having available the type of *labradorius* and a fine series of twenty-eight others, adequately representing the unworn breeding plumage, the worn breeding plumage and freshly molted fall specimens, all from the Labrador coast, largely due to the enterprise of Dr. Oliver L. Austin, Jr. We make very brief comments on this series, as we do not wish to anticipate Dr. Austin's report on his collections.

It requires no emphasis here to point out that the currently recognized races of the Savannah Sparrow are extremely critical and the use of comparable series is essential. Briefly the color characters of *labradorius* are striking in series, and the race is fully worthy of recognition. The large size claimed in the original description (based on three specimens only) proves, however, to be contrary to fact. The average wing length of breed-

ing New England males proves to be about 69.5 mm., with the maximum 71 mm. The majority of the Labrador males fall *below* this average, and not a single specimen of the series including the type reaches the maximum. There is no difference in size, therefore, which can in any real way assist in a determination of migrant individuals of *labradorius*. We also find that the two subspecies are virtually indistinguishable in very worn breeding plumage.

The following New England specimens can without any hesitation be referred to *labradorius* Howe:—

1. Mounted male, Ipswich, Mass.; April 19, 1902; C. E. Brown; in Peabody Museum, Salem.
2. Adult male, Ipswich, Mass.; April 9, 1883; William Brewster; now in M. C. Z.
3. Adult female, Newtonville, Mass.; Sept. 1868; C. J. Maynard; now in M. C. Z.
4. Adult female, Newtonville, Mass.; Sept. 24, 1867; C. J. Maynard; now in M. C. Z.
5. Mounted female, Danvers, Mass.; Oct. 3, 1925; S. G. Emilio; in Peabody Museum.

It should be emphasized that our material from other New England states was either lacking entirely or was very defective in migrant birds.

At least ten other specimens from Massachusetts were obvious intermediates and agree well in characters with breeding birds from the Magdalen Islands and the north shore of the Gulf of St. Lawrence. A single specimen from Curslet, Newfoundland (in coll. A. C. Bent) could be referred to *labradorius*, but a good series should be studied before including Newfoundland definitely in the range of *labradorius*.

The M. C. Z. collection is almost without specimens between New York and Virginia, but good series of wintering birds are available from the Carolinas, Georgia and Florida. There was no difficulty in picking out the six specimens listed below as unquestionably typical *labradorius* with all the characters developed to an extreme. It would seem to be another case where the birds breeding farthest north appear to migrate farthest south to winter. The Florida records are as follows:—

1. Female, Dummitt's, Florida; March 6, 1869; C. J. Maynard.
2. Female, Tarpon Springs, Florida; April 21, 1887; W. E. D. Scott.
3. Female, Tarpon Springs, Florida; December 30, 1889; W. E. D. Scott.
4. Male, Tortugas, Florida; March 21, 1890; W. E. D. Scott.
5. Male, Tortugas, Florida; March 21, 1890; W. E. D. Scott.
6. Female, Tortugas, Florida; March 28, 1890; W. E. D. Scott.
7. Male, Tortugas, Florida; March 29, 1890; W. E. D. Scott.

We suggest that other collections be carefully examined, and that any suspiciously dark looking Savannah Sparrows be sent for critical determination to some museum which possesses an adequate series of *labradorius*.—S. GILBERT EMILIO and LUDLOW GRISCOM, *Mus. Comp. Zoology, Cambridge, Mass.*

The Sharp-tailed Sparrows of Maryland.—Since announcement of the first capture of Nelson's sparrow in Maryland¹ we have devoted further attention to the marsh sparrows of the genus *Ammospiza*, taking specimens as opportunity offered. Recent examination of this accumulated material indicates that all four races of *Ammospiza caudacuta* at present recognized are represented by birds secured in Maryland as indicated below.

Ammospiza caudacuta caudacuta. One was taken at Cornfield Harbor on the Potomac River, one mile above Point Lookout where the river joins Chesapeake Bay, on September 23, 1928, and another on October 13, 1929. Others were secured at Ocean City on December 3, 1926, and April 29, 1929. This must be a common migrant at the proper season.

Ammospiza caudacuta subvirgata. A male was secured at Cornfield Harbor October 13, 1929, and a female near Ocean City, on the Atlantic coast, November 9, 1929. This is the first report of this race for the state of Maryland, though it is unquestionably of regular passage in migration. The specimen from Cornfield Harbor is of note as this is an inland locality.

Ammospiza caudacuta nelsoni. We recorded this inland form first near Ocean City, Maryland on October 6, 1928, and at Cornfield Harbor, October 14, 1928. At the latter locality we collected additional specimens on October 4, and 11, 1931. This bird is of regular occurrence in fall in the salt water marches, and should occur there also in spring.

Ammospiza caudacuta diversa. Dr. Oberholser² has indicated that this race, described by Bishop from Wanchese, North Carolina, is a valid form and includes the breeding birds of Maryland. We have collected it at Ocean City, Maryland, August 13 and 14, 1926, October 6, 1928, and April 29 and November 9, 1929; at Cornfield Harbor, July 21 and October 14, 1928, October 13, 1929, September 28, 1930, and October 4, 1931; and at Chesapeake Beach July 4, 1929.—ALEXANDER WETMORE and FREDERICK C. LINCOLN, Washington, D. C.

Western Field Sparrow in Northwestern Montana.—The breeding range of the Western Field Sparrow (*Spizella pusilla arenacea*) is described by the new A. O. U. 'Check-List' as "the Upper Austral Zone from south-eastern Montana and south-western North Dakota to central Nebraska." In his list of Montana birds (Pacific Coast Avifauna No. 14, 1921, p. 124), Aretas A. Saunders cites only three records of this species from the state, all from the southeastern plains district. Thus the following records show its occurrence far from its normal range and habitat.

Our ranch is situated in a small, forested mountain valley in extreme northwestern Montana, near Fortine, sixteen miles south of the Canadian border. Here on July 15, 1923, a solitary male Western Field Sparrow appeared; it was observed on the three following days, and on the 22nd, after which it disappeared. It sang frequently each day it was seen, and this action helped to make identification certain.

¹ Auk, 1929, p. 243.

² Auk, 1931, pp. 610-611.

The species was not observed again until June 10, 1929, when a pair of the birds arrived at our ranch. Almost at once they established a "territory" on a pasture hillside that carried a scattered growth of silverberry (*Elaeagnus argentea*) and a few small firs. I believe that they nested, or made an attempt at nesting. I did not have time to search for a nest; but the female was observed only infrequently, and the male ceased singing about the last of June, after having sung daily since their arrival. Moreover, at no time after the first few days was either bird observed to wander beyond the limits of their "territory," which embraced about four acres of land. Here the birds remained until August 3, after which they were not observed again that season.

The following year, 1930, a male Western Field Sparrow appeared May 16 and remained until June 4, singing almost every day during this time. It frequented the territory occupied by the pair present the preceding year, but also ranged several hundred yards from this land. Evidently lacking a mate, the bird left our ranch June 4, and was not seen again that year.

On the morning of May 26, 1931, a solitary male Western Field Sparrow again appeared at the same territory. It sang frequently that day and the day following, then disappeared. No other record of the species was obtained during the season.—WINTON WEYDEMEYER, *Fortine, Montana*.

Notes from Northampton, Mass.—The following observations made during November and December, 1931, seem worthy of record

Chaulelasimus streperus. **GADWALL**.—On November 1, I flushed thirty-two ducks from a pond. All were black except the leader, which was gray and strangely small and showed white in the wing. On November 3, I found this duck again: it flew with three Blacks past me (not away from me as before), and showed a pure white speculum *framed in black*, so that it looked transparent. Size, lean shape, and narrow wings all confirmed the identification. The latest date for the species in Massachusetts given by Forbush is November 1.

Aix sponsa. **WOOD DUCK**.—Flocks of twenty and over were noted in October and a few drakes stayed almost through November. The last was seen Thanksgiving Day, November 26, an unusually late date here.

Nyroca collaris. **RING-NECKED DUCK**.—Two drakes appeared in November, one the close comrade of the female Canvasback, the other on Thanksgiving Day at Ashley Ponds, Holyoke, where it dove for food in the shoals along shore and refused to fly though approached within thirty feet.

Nyroca valisineria. **CANVASBACK**.—November 22 was very warm and still, but a cold wave was reported in the Northwest. A large gray white duck was seen preening on top of a muskrat-house in the pond at Northampton where the other ducks above noted had been seen. Canvasbacks have been recorded in our valley only once before (Dec. 9, 1928), but when this bird got down and swam, the profile was unmistakable. A female, she was constantly companioned by a male Ring-neck, which kept watch while she slept and did not begin diving for food until she awoke and began

to dive. Both acted as though tired out after a long night flight. They spent a full week on the pond, and were only once seen to fly. Then some Black Ducks, flushed, alarmed them and they pattered with both wings and feet in a semicircle from one part of the pond to another, without rising from the surface. They were visited daily. Their last morning, November 28, was very cold; only a small pool was open amid the ice, but therein swam these two rarities with three Green-winged Teal, a Pied-billed Grebe, and a Coot. The next morning was much milder, the other five birds were there, but the Canvasback and Ring-neck had gone.

Glaucionetta clangula americana. GOLDEN-EYE.—On December 24, a flock of 24 was flushed from the windless surface of the Connecticut River at Agawam, with a thrilling rustle and whistle as they got under way. They flew up toward Springfield but presently swung round, high over head, and passed off southward.

Lophodytes cucullatus. HOODED MEGANSER.—An adult male was observed at Ashley Ponds, Holyoke, November 8. The species is for some reason much more rarely seen in fall than in early spring hereabouts.

Mimus p. polyglottos. EASTERN MOCKINGBIRD.—One was seen at Holyoke, December 20.

Dumetella carolinensis. CATBIRD.—One was noted at Northampton, November 4, and another at Amherst, December 5.

Toxostoma rufum. BROWN THRASHER.—One was reported at Northampton, November 14.

Icterus galbula. BALTIMORE ORIOLE.—A male that could flutter but not fly either high or far was seen in Northampton early in November and again in mid-December. From December 12 to 20 he fed at a house where grapes were put out for him, but toward nightfall departed for some woods by hopping to the top of a tree and fluttering (like a Flying Squirrel) as far as he could to another tree, there to repeat his climb. On December 20 he was trapped and taken to the Bird Hospital at Springfield.

Hesperiphona v. vespertina. EVENING GROSBEAK.—Four appeared at Northampton on November 22.

Spizella p. pusilla. FIELD SPARROW.—One was identified at Northampton on both November 24 and December 23 by A. C. Bagg.

Zonotrichia albicollis. WHITE-THROATED SPARROW.—One was seen in the highest, most northern, wintriest part of Williamsburg on December 20, and January 1, 1932, by A. C. Bagg.

Passerella i. iliaca. FOX SPARROW.—Two late birds were seen at Holyoke on December 12.—SAMUEL A. ELIOT, JR., Smith College, Northampton, Mass.

Some Recent Records from Reading, Pennsylvania.—*Phalacrocorax auritus auritus*. DOUBLE-CRESTED CORMORANT.—On October 3, 1930, a specimen was secured at Blue Lake, a small artificial lake near Reinhold's, Lancaster County, about a mile from the Berks County line. This was mounted and is now in the Reading Museum. I am not acquainted with

any other records of this species for eastern Pennsylvania, except my sight record at Maidencreek Dam, April 21, 1929.

Cygnus columbianus. WHISTLING SWAN.—A flock of twenty-six flew over Lake Ontelaunee on November 5, 1930, but probably did not alight. Six were there on November 16 of the same year. On November 20, 1931, a flock of twenty-six, about a third of which was composed of young of the year, was on the lake.

Aquila chrysaetos canadensis. GOLDEN EAGLE.—A specimen, the third to be taken locally in eleven years, was shot by a gunner on the Blue Mountain near Eckville, November 10, 1931. This was an adult female, weighing 10½ pounds. It was seized by the Game Protector, Lester Leinbach, and presented to the Reading Museum.

Rallus elegans elegans. KING RAIL.—Individuals of this species were noted in the marsh at Lake Ontelaunee on June 15, July 13 and October 4, 1930; also August 9, 1931.

Arenaria interpres morinella. RUDDY TURNSTONE.—Recorded at Lake Ontelaunee, May 22 and 31, 1930. These are the first since Shearer's specimen in 1889.

Phaeopus hudsonicus. HUDSONIAN CURLEW.—On May 25, 1930, a flock of ten, led by a Black bellied Plover, circled, calling, several times over the marsh at the head of Lake Ontelaunee but did not land. It was early morning at the time, and I had an excellent view of them with the sun on both backs and breasts as they wheeled over the marsh. As this is the first record of this species for the county I should explain that I have been familiar with it along the Atlantic coast for many years.

Mimus polyglottos polyglottos. EASTERN MOCKINGBIRD.—One wintered at Wyomissing Hills in 1930–1931. I saw it on March 15 and 22, 1931, and it was said to have been in the neighborhood since November, as well as during the previous winter.

Vermivora celata celata. ORANGE-CROWNED WARBLER.—On December 27, 1931, Byron Nunemacher and the writer saw one under favorable conditions and at close range at Moselem, Berks County. It was associated with a band of Chickadees, at the time, all feeding on bushes quite close to the ground. The uniform olive-green back and greenish yellow underparts and head pattern together with the needle-sharp *Vermivora* bill were carefully noted at a distance of twenty to twenty-five feet. I had previously become acquainted with this species in the South.

A second (or possibly the same) individual was seen at Birdsboro twenty miles to the south of that previously mentioned, on January 17, 1932. This was also associated with a band of Chickadees together with Titmice and Golden-crowned Kinglets. As in the former case, it spent most of the time on or near the ground, and was extremely active. Several excellent views were had in this case, extending over a period of fifteen minutes. There was no snow at the time, and the green and yellow coloration stood out in striking contrast to the dead foliage at this season. Its distinctive "chip," like that of a Chipping Sparrow, was heard several times.

Passerherbulus candacutus nelsoni.—NELSON'S SPARROW.—Since my first observation of this sparrow at Moselem, October 18, 1924, I have had two opportunities of studying it during its migrations. On June 8, 1930, I found one on a marshy island at the head of Lake Ontelaunee, Berks County. This bird was followed for three quarters of an hour, during which time I flushed it at least a dozen times, finally having the satisfaction of an excellent view at close range. This late date may give a clue to the reason for its reputed rarity as a transient inland.

A third observation was made near the same spot on September 27, 1931. In each instance I was looking for rails when these birds were first flushed, and they were all discovered in typical rail habitat, rank weeds and grasses growing out of shallow water.

Shooting is not allowed on the Maidencreek area, and I was unable to obtain specimens, but in each case was able to obtain sufficiently close views to identify this subspecies to my satisfaction.—EARL L. POOLE,
Reading Museum, Reading, Pa.

Summer Bird Associations on Great Lakes Islands.—Ten days or more, in July, 1931, were employed by W. I. Lyon and the writer in banding colony-nesting birds on the islands of northern Lake Michigan, the Straits of Mackinac and the waters of Lake Huron at the mouth of the St. Mary's River.

Twenty islands were visited but as, in two instances, two islands lay quite close together and are treated as a unit, the table showing the associations employs but eighteen units.

It is not pretended that all resident species were observed. In general, on the larger wooded islands, only the beach and the contiguous wooded fringe came under observation. Hence the list is of the most obvious species.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Herring Gull.....	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Ring-billed Gull.....							x											
Caspian Tern.....	x	x								x	x							
Common Tern.....	x	x				x	x	x	x	x	x	x	x	x	x	x	x	
Red-br. Merganser.....	x	x			x	x				x								
Black Duck.....	x	x									x							
Great Bl. Heron.....		x	x							x	x							
Spotted Sandpiper.....	x	x	x			x	x	x			x	x		x				
Killdeer.....	x	x				x												
Marsh Hawk.....			x															
Crow.....								x	x									
Red-wg. Blackbird....	x	x			x	x												
Bronzed Grackle.....		x																
Song Sparrow.....	x	x	x			x	x				x							
Tree Swallow.....			x															
Red-eyed Vireo.....			x															
Yellow Warbler.....			x							x								

Of the gulls and terns which made up the main avian population of these islands an analysis of the table above shows the following associations:

Common Terns alone on five units; Herring Gulls alone on four units; Herring Gulls with Common Terns on four units; Herring Gulls with Caspian Terns on two units; Herring Gulls with Ring-billed Gulls on one unit; Herring Gulls with Caspian Terns and Common Terns on one unit; Caspian Terns with Common Terns on one unit.

Incidental observations comprise the following:

Larus delawarensis. RING-BILLED GULL.—The distribution of this species as given by Bent and the 'Check-List' states that it formerly bred in Michigan. The colony noted was found in Chippewa County, Michigan, and has been visited by Lyon for the past eight years.

Hydroprogne caspia imperator. CASPIAN TERN.—One of the colonies visited, which was the smallest, has not been mentioned, we believe, by others who have reported upon this region. It lies on the western shore of Green Bay, below Escanaba, and was first visited by Lyon about five years ago.

Actitis macularia. SPOTTED SANDPIPER.—The nests found were in situations different from those with which one is familiar who has found the species nesting among rank growths along streams or ponds or among the beach grasses bordering larger bodies of water. On the islands, nests were found, with one or two exceptions, among the rocks where there was no vegetation.

Circus hudsonius. MARSH HAWK.—A female was surprised with a fresh kill which it dropped and which proved to be a young Herring Gull. Numerous "feather beds," of the kind commonly found at the scene of a raptorial gorge, were observed in the wooded parts of the island.

Agelaius p. phoeniceus. RED-WINGED BLACKBIRD.—Nests on the islands were in bushes, some at a height of ten feet or more. No colonies of the species were present. Only two or three pairs at most could find nesting accommodation and in one instance there was but a single pair.—EDWARD R. FORD, Chicago, Ill.

Some Notes from Southern Florida.—During December 1931 I was on a number of field trips in Sarasota and Bradenton Counties, Florida. One automobile trip was taken south and east across the Everglades to Miami and the Royal Palm State Park, returning by Lake Okeechobee. Observations on several of the birds seem worth recording.

Ardea occidentalis. GREAT WHITE HERON.—Two of these birds seen December 18, 1931, about 40 miles west of Miami, along the Tamiami Trail. One bird was perched in a low hammock near the Trail while the other was with a mixed flock of Little Blue and Louisiana Herons, American Egrets and White Ibises. This was an excellent opportunity for comparing the two "White Herons." The larger size of *Ardea occidentalis*, the heavier bill and yellow legs all seem like good characters in distinguishing this bird

from the big Egret. The two occipital plumes were rather conspicuous on one of the birds.

Another Great White Heron was seen December 28, 1931, between Long Key and Marathon.

Aramus pictus pictus. LIMPKIN.—A bunch of seven was seen along the Kissimmee River near the highway from Okeechobee to Lake Childs, December 19, 1931. They were feeding along the open, somewhat muddy banks of the river and kept in a rather close flock. The head and neck were jerked with each step and at the same time a soft cluck was given.

Phaeopus hudsonicus. HUDSONIAN CURLEW.—Two birds definitely of this species were seen December 3, 1931, with a mixed flock of shore-birds on a small sand-flat in Sarasota Bay, near Whitfield Estates. The Curlew were seen under favorable conditions with 8 x glasses and Willets, Black-bellied Plover and Dowitchers were present for comparison. The decurved bill, crown stripes and size (larger than a Willet) were all noted.

Gelochelidon nilotica aranea. GULL-BILLED TERN.—On December 7, 1931, two of these birds were seen in Sarasota Bay, near Whitfield Estates. Howell, in his new 'Florida Bird Life,' p. 261, gives two other winter records of this species, one in December, 1886, for Hillsborough County, and the other January, 1926, in Wakulla County.—PHILIP A. DUMONT, Berkeley, California.

Notes from Logan, Utah.—In a previous note (Auk, Oct. 1931, p. 611) by the writer, *Junco annectens* Baird was reported as a new record for Utah. Only the male was determined. The skin of the female has since been determined by Dr. Oberholser as *Junco mearnsi* Ridgw. The hybrid species, *J. annectens* (now dropped from the 'Check-List') was therefore mated with *J. mearnsi* known to breed in Utah but seldom reported. I took another female *J. mearnsi* in the mountains east of Logan, Utah, in July 1931.

Two specimens of *Dendroica townsendi* originally reported elsewhere (Univ. Ut. Bul. vol. 21 no. 8) as a new Utah record (from the Henry Mts.) were taken in Logan, September 27, 1930.

One *Vireo solitarius cassini* was also collected the same day from among the many migrants present in the boxelders by my house.

An immature *Lanius ludovicianus gambeli* was collected July 23, 1931, near Promontory, Boxelder Co., Utah.—J. S. STANFORD, U. S. A. C., Logan, Utah.

Some Emendations to the Ranges of the New Check-List.—An attempt to add to, or detract from, the consummation of the work of the Committee which produced the new 'Check-List' would seem to smack of presumption, but it is not with any such intention that these words are written. The 'Check-List' is a human production and none of humanity's works are perfect. That some inaccuracies occur in this revolutionary publication is only natural, and in order to make the record as accurate as possible it would seem desirable for those who have unpublished data of

importance or who find published matter overlooked by the Committee to call attention to it promptly.

Years of field work in my native state of South Carolina, nearly all of which relate to the coastal section, have resulted in some knowledge of the seasonal status of the species occurring there and it is of these that I would make mention as having been treated somewhat inaccurately in the 1931 'Check-List.'

Arenaria interpres interpres is listed, on p. 108, as "accidental in Massachusetts (Monomoy Island, Sept. 8, 1892)." Since this is the sole locality given for North America, it should be recalled that A. T. Wayne secured a specimen of this species on Dewees Island, Charleston County, South Carolina, on May 31, 1918. This bird is now in his collection which rests in the Charleston Museum. (Auk 1918, p. 439.)

The range of *Dendroica virens waynei* is given on p. 289, as "Resident in the coastal district of South Carolina." This warbler occurs in coastal South Carolina only as a summer visitor, arriving in late March (24 to 27). It breeds in April and early May. The dates of its departure are not definitely known as yet, but it no doubt migrates about the last of June or early July. The observations regarding its arrival cover many years, but the difficulty of field work in the heavy cypress swamps in which it nests, is considerable in summer time and the exact dates of the departure remain to be discovered. It is present in South Carolina for only three and a half months at best and cannot therefore, be considered as "resident."

Passerculus princeps is limited in its winter range, on p. 334 from Sable Island to Georgia. As a matter of fact, it has been taken almost as far south as Florida. A. H. Helm secured it on Cumberland Island, Georgia, April 14, 1903. This island's southern extremity is just north of the Florida line. W. W. Worthington took it in Glynn County, about mid-way of the coastline of Georgia, on January 8, 1890. The writer was in company with Ivan R. Tomkins when the latter secured it in Chatham County on January 23, 1931.

Spizella arborea arborea is stated, on p. 348, to winter south to "eastern Oklahoma, central Arkansas, South Carolina and Georgia (rarely)." As far as the writer can ascertain, there is no authenticated occurrence of this species in South Carolina. Coues included it in a list published many years ago though no specimens were taken. Both Loomis, in fourteen years of field work in the Piedmont section, and Wayne, in nearly fifty years on the coast, failed to detect it and the latter authority refutes Coues' statement completely.

Melospiza melodia atlantica is stated on p. 357, to occur from "New York (Long Island) to North Carolina." This form occurs regularly every winter as far south as Edisto Island, South Carolina, which is not far from the Georgia line. It is noted about Charleston throughout cold weather and Wayne secured numerous specimens. The earliest record of its fall appearance in the Charleston area was established by Edward S. Dingle on October 13, 1928.

What seemed to be a typographical error occurs in the range of *Icteria virens virens* on p. 297. Upon inquiry Dr. Stone informs me that an entire line of manuscript was omitted and the fact was not discovered by any of the proofreaders. After "Central New York" should be inserted "and southern New England south to southeastern Texas, southern parts of the Gulf States, etc."—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

RECENT LITERATURE.

Howell's 'Florida Bird Life.'—An adequate work on the birds of Florida has long been a desideratum. The fact that only in Florida does the Tropical Zone enter the United States while the entire Floridian Faunal Region, with its twenty-eight indigenous birds, is included within the state boundaries makes a study of its animal and plant life of great interest to the naturalist. The popularity of Florida as a winter resort, moreover, especially of late years, has brought thither from the north, hundreds of nature lovers who would know more about the unfamiliar birds that they see about them.

To both of these classes Mr. Arthur H. Howell's recent book 'Florida Bird Life'¹ will be most welcome and a perusal of its pages shows that the author has most satisfactorily met their needs. The work is published by the Florida Department of Game and Fresh Water Fish in coöperation with the Bureau of Biological Survey, U. S. Department of Agriculture, with which Mr. Howell has been associated for many years, and is a royal octavo uniform in size in size with Forbush's 'Birds of Massachusetts.' In its preparation the author has had the benefit of the experiences of a host of ornithologists who have cheerfully furnished notes and observations to supplement his wide personal acquaintance with Florida bird life, while his thorough knowledge of the literature of the subject and access to the records of the Survey, have enabled him to quote extensively from the published records of his predecessors.

The plan of the work is to present a summary of our knowledge of the birds of the state, rather than detailed life histories and in this the author has been eminently successful. Under each species is a brief statement of "Recognition Marks" and "Range," followed by "Distribution in Florida" in much detail, with dates and localities for all important records, "Haunts and Habits," usually brief and limited to accounts of nesting and characteristic activities, and finally "Food" under which heading the records of the Biological Survey have been extensively drawn upon and the economic status of the species established. There is also in the case of many of the birds a most useful outline map showing their distribution in the state.

There is also an excellent "History of Florida Ornithology" from the expedition of Jean Ribaut in 1562 and William Roberts' account of Florida published in 1763, through the explorations of Bartram, Audubon, Harris

¹ Florida Bird Life | by | Arthur H. Howell | Senior Biologist Bureau of Biological Survey | Fellow of the American Ornithologists' Union | Color Plates from Original Paintings by | Francis L. Jacques | of the American Museum of Natural History | Published by | Florida Department of Game and Fresh Water Fish | in coöperation with | Bureau of Biological Survey, United States Department of Agriculture | Publishers' Agents—Coward-McCann, Inc.,—New York. | 1932. Pp. i-xxiv + 1-579, pl. 58, text figures 72. Price \$6.00.

etc., the classic studies of Dr. J. A. Allen and the collecting trips of Cory, Scott, and others, down to the present day. This is followed by a list of the birds originally described from Florida—eighty-two in number, a chapter on the "History of Bird Protection in Florida" by Robert W. Williams and a well illustrated discussion of the "Physiographic Regions" and "Life Zones" of Florida, the latter listing the characteristic mammals and trees as well as the birds. The accompanying map shows the Tropical Zone extending as a narrow strip along the eastern coast from Jupiter to Miami and including the entire tip of the peninsula and the Keys, from Homestead to Everglade and to Coxambas on the Gulf. It is explained that while this area (including the everglades) has very marked tropical elements in its flora, insects, and mollusks, only a few birds are restricted to it, eight being restricted to the Keys in the breeding season with four additional species which, while most characteristic of the Tropical Zone, range also somewhat farther north.

The Floridian Fauna according to Mr. Howell occupies practically all the remainder of peninsular Florida, the Louisianian Fauna extending east from the northwestern part of the state as far as St. Marks and then dipping down to Gainsville and sharply up again to Jacksonville. The author considers that so far as birds are concerned the "Gulf Strip" of Merriam and the "Sabalian Zone" of Rehn and Hebard cannot be separated from the Louisianian.

The work ends with an excellent bibliography and a hypothetical list of twelve species apparently erroneously attributed to Florida. We have been able to add but one item to the bibliography, i. e. Gen. George A. McCall's 'Letters from the Frontier,' Philadelphia, 1868, in which are accounts of his experiences in Florida with notes on the Flamingo and a few other species. (See 'Cassinia' 1912 and Cassin's 'Birds of California etc.').

The illustrations of Mr. Howell's book consist of photographs of habitats and birds from life, thirty-seven colored plates and two in black and white by Francis L. Jacques. The aim has been to figure "the most striking and unusual birds characteristic of Florida" and "those others most likely to be confused in the field." In carrying out this idea the artist has adopted two plans; in the first a group of species representative of a given region is presented with a background of characteristic environment, as birds of the Pine Woods, Scrub, Florida Keys, Prairie, Salt Marsh, Cypress Swamp etc.; while in the other all of the species of a group are arranged on a single plate so as to best bring out their differences. In either case the necessary crowding of figures on a single plate is often disastrous to artistic effect but in this instance Mr. Jacques has been remarkably successful in carrying out a difficult task and the plates as presented are far more useful to the reader than single plate figures which, while they give the artist his longed for opportunity, add so to expense that they are almost prohibitive. The color reproduction is excellent and evidently has been given most careful consideration.

In sequence of families and species, and in all but a few cases in nomenclature as well, Mr. Howell has followed the new edition of the A. O. U. 'Check-List.' While one may follow his own ideas on nomenclature in a technical publication where arguments may be presented, it seems unfortunate that in a work of this sort he has in a few cases—cf. Blue Jay and Grackle—preferred to follow his personal opinion instead of that of the A. O. U. Committee, which was appointed for the very purpose of establishing uniformity. Such discrepancy confuses many—if not most of the readers of his excellent work and we have already had to answer several letters from puzzled readers who thought that the author had made a "mistake." At least a footnote might have been added to explain why the names in the 'Check-List' had not been followed.

Mr. Howell's 'Florida Bird Life' will be our authority for many years to come on the birds of the South Atlantic and Gulf States as well as of Florida since nearly all of their species include Florida in their range. We congratulate both the author and artist upon a work well done.—W. S.

Chapman's 'Handbook.'—**Revised.**—Probably no book has had so much to do with developing ornithologists and an interest in birds as Dr. Frank M. Chapman's 'Handbook of Birds of Eastern North America.'¹ Appearing originally in 1895, when the author had scarcely more than started upon his scientific career, it has been our standard for the past thirty-seven years, thus fully confirming the late Eugene P. Bicknell's prophecy, when reviewing the first edition, that it "is marked for a career of extended usefulness" and "will take rank among the authoritative works on North American birds." (Auk, 1895, pp. 282–284.)

Since that time a revised edition was published in 1912, and now with the advance of our knowledge, another revision has become necessary. This new "Chapman" is in many respects a new book which is not surprising when we note that four feet of 'Auks,' as the volumes stand on the shelf, have been published since the last edition, giving some idea of the accumulation of bird lore since that time.

The most noteworthy change is the entire rearrangement of the sequence of species to conform with the classification of the new A. O. U. 'Check-List.' It is most fortunate that the two works have appeared at so nearly the same time since the presentation of the new arrangement in such a work as Chapman's 'Handbook' will do more to make it familiar to bird students, gain immediate recognition and bring about uniformity than any

¹ Handbook of Birds | of Eastern North America | with 'Introductory Chapters on | the Study of Birds in Nature | By | Frank M. Chapman | Curator of Ornithology in the American Museum of Natural History | Fellow of the American Ornithologists' Union | Honorary Member of the British Ornithologists' Union etc. | With Illustrations by Louis Agassiz Fuertes, | Tappan Adney, Ernest Thompson Seton, and Francis L. Jacques | Second Revised Edition | New York and London | D. Appleton and Company | 1932. Pp. i–xxxvi + 1–581, 29 plates and 166 text figures. Price \$5.00.

other agency. In nomenclature Dr. Chapman also wisely follows the 'Check-List' sinking any personal opinion in favor of that of the A. O. U. Committee and thus again making for uniformity. While usually following the idea of the 'Check-List' in adding the words "Eastern" or "Southern" to the names of various familiar birds in order to distinguish them from western or other races, we note that in a few cases this has not been done, as in "Parula Warbler" and "Fox Sparrow," a quite excusable lapsus when we consider the magnitude of the task of rearranging the text of the entire work.

The invaluable introductory chapters have been largely rewritten or amplified bringing them up to date and in this connection it is interesting to find three pages devoted to bird banding, a phase of bird study which has developed in its entirety since the last edition of the 'Handbook' appeared. The main text has been subjected to revision too, and, in the supplementary references after each species, many papers published in recent years have been added. The historical review is reprinted as it stood in 1912 but another section is added, under the heading 1912-1931, covering nearly twice the space of the original—another indication of the progress of ornithology during the last twenty years. A noteworthy innovation is the reversal in the order of the names of the birds, the popular name preceding the scientific, instead of vice versa as heretofore, the author commenting that "the former is more frequently used and more stable than the latter"—another argument in favor of keeping "hands off" of the English names in the 'Check-List,' which was done so far as possible, in spite of urgent recommendations from some sources to adopt more "suitable" common names. Dr. Chapman has retained the old numbers of the 'Check-List' in brackets after the name, just as is done in both the third and last edition of the latter work, although he states, curiously enough, that "in the current edition of the 'Check-List' the birds are not numbered!" To the now historic illustrations of the earlier editions have been added some outline drawings by Francis L. Jacques, notable among which are the plates of sandpiper heads and ducks on the wing, the latter forming the frontispiece as evidence, perhaps, of the great increase in the popular interest in water birds that has developed in recent years.

As in previous editions, Dr. Chapman has brought the 'Handbook' strictly up to date but so great are the improvements in this third edition that we prophecy that not only will it continue to be indispensable to all beginning the study of ornithology, but that those possessing the earlier editions will find it necessary to possess this one as well, if they wish to keep their knowledge abreast of the times. Our only regret in congratulating the author on his admirable revision of an already excellent work, is that he did not revise the price of 'The Auk' which since 1921 has been four dollars instead of three as he gives it! However, the treasurer will doubtless be able to induce misguided applicants to become Associates of the A. O. U. and so receive the journal for their three dollar dues.—W. S.

Bannerman's 'Birds of Tropical West Africa.'—The second volume of this notable publication¹ has recently appeared and in every detail is fully up to the high standard set by its predecessor which was reviewed in detail in 'The Auk,' 1931, p. 285. In the volume before us are treated the orders Ralliformes, Gruiformes, Charadriiformes, Columbiformes and Psittaciformes, the classification being that of Dr. Percy R. Lowe as set forth in 'The Ibis,' for 1931, and here formally used for the first time. Notable associations in this scheme are the placing of the Bustards, Thick-knees, and Jacanas along with the Cranes, in the Gruiformes; and the inclusion of the Sandgrouse and Button-Quail as suborders with the Pigeons in the Columbiformes. A most instructive feature of the key to the families is the arrangement in a column of the heads and feet of the more important genera with braces indicating their association in family groups and with explanatory text on the opposite page.

The account of each species is headed by the popular name followed by the technical, as in Chapman's new 'Handbook,' then the important synonymy relating to the district under consideration, a description of plumage and measurements, and paragraphs on Field Identification, Range and Local Distribution, and Habits, the last often developed into quite a full biography.

The illustrations consist of 114 text figures, line or half-tone, all with a few exceptions by Grönvold, Frohawk, and Roland Green and fifteen color plates from paintings by George Lodge, H. Grönvold, F. W. Frohawk and Henry Jones; the Bustard paintings by the last-named being particularly beautiful. There is also a colored map of the Gold Coast.

In every detail the work should appeal to the bird student as it is not only thoroughly up to date in its scientific information but written in a style that every lover of nature can understand, and presented in a form that will prove an attraction to any library fortunate enough to possess it.—W.S.

Martorelli's 'Birds of Italy.'—This work² first appeared in 1906 some years before the death of the author, in 1917, and the second edition which

¹ The | Birds of Tropical West Africa | With Special Reference to those of the Gambia, | Sierra Leone, the Gold Coast and Nigeria | By | David Armitage Bannerman | M.B.E., M.A. (Cantab.), F.R.S.E. | Zoological Department, British Museum of Natural History | Member of the British Ornithologists' Union and of the Société | Ornithologique de France, Corresponding Fellow of the American | Ornithologists' Union, Fellow of the Zoological Society of London | and of the Royal Geographical Society, etc. | Maps and Coloured Plates | Volume Two | Published under the Authority of the | Secretary of State for the Colonies by | The Crown Agents for the Colonies | 4 Millbank, Westminster, London, S. W. 1 | 1931 | Pp. i-xxix + 1-428. Price 22s. 6d. Subscription to the entire work (5 vols.) £ 5.

² Prof. Giacinto Martorelli | Direttore della Raccolta Ornitologica Turati del Museo Civico | di Storia Naturale di Milano | Gli | Uccelli d'Italia | con 308 fotoincisioni da Acquarelli e Fotografie | Originali e con 16 Tavole | a Colori | Seconda Edizione | Riveduta ed Aggiornata dal Dott. Edgardo Moltoni | Successore del Prof. Martorelli nella Direzione della Raccolta Turati | e dal Dott. Carlo Vandoni | Rizzoli & C. Milano | 1931. Pp. i-xx + 1-752. Price 125 Liro, Rizzoli & C., Piazza Carlo Erba N. 6, Milan, Italy.

is before us is in the nature of a memorial, edited and revised by his successor in the Museum of Natural History at Milan, Dr Egardo Moltoni, associated with Dr. Carlo Vandoni. It is a quarto volume of over 700 pages with 308 text figures or full page half-tones and sixteen colored plates. The illustrations are mainly from water colors by the author with the addition of a few by Dr. Vandoni and illustrate a large number of the 476 species and subspecies so far found in Italy. They vary in excellence and artistic merit but are all satisfactory representations of the subjects that they depict while many are excellent and show the intimate knowledge of the author concerning the actions and poses of the familiar birds of his country.

The text consists of a description of each species with measurements and a brief account of distribution and habits. The nomenclature and classification follow that of Sharpe's 'Hand-List.'

The book is more popular in character than the 'Ornitologia Italiana' of Arrigoni degli Oddi, to which it makes a satisfactory companion, furnishing the illustrations which the latter lacks.

The authors are to be congratulated upon an excellent volume and one which should stimulate interest in birds throughout Italy.—W. S.

Wetmore on 'Birds.'—The Smithsonian Institution is sponsoring a series of volumes dealing with all branches of science. Volume 9 of the series treats of the warm-blooded vertebrates and the first part covering the birds¹ is by Dr. Alexander Wetmore. The intention is to give a résumé of general information regarding bird life such as will interest the reader, without attempting to cover technical matter or to present a systematic account of the species, or even of the higher groups. The chapter headings will give a good idea of the contents of the volume: viz.; Birds in Relation to Man; Adaptations for Progression by Flying; Color and its Arrangement; Ancestors and Ancestry; Migration and its Study; Homes and their Location; Eggs and their Care; Something about Young Birds; Voice and Other Sounds; Studies Afield and in the Laboratory; Food and Economic Relations; The Kinds of Birds in Brief Review.

Dr. Wetmore has exercised excellent judgment in choosing the information that he has presented, with the result that he has included in a small space a surprising amount of important matter. As an additional attraction there are a number of admirable photographs of birds in life and several beautiful color plates from paintings by Allan Brooks. If the other volumes of the series measure up to Dr. Wetmore's contribution it will prove a unique summary of scientific knowledge.

Chapman on the Bird-life of Mts. Roraima and Duida.—The fauna and flora of these two isolated mountains rising from the tropical

¹ Smithsonian Scientific Series Vol. 9, Part 1. Birds, by Alexander Wetmore, Assistant Secretary Smithsonian Institution. Pp. 1-166. 69 Plates and several text figures. 1931.

forests of British Guiana and Venezuela respectively, just above the Brazilian boundary, have long been of consuming interest to naturalists. Schomburgk (1842), Whitely (1883) and McConnell and Quelch (1894 and 1898) had made collections of birds on Roraima but none had ever been made on Duida nor had it ever been ascended. In 1928, however, the Sydney F. Tyler Expedition of the American Museum of Natural History, under the leadership of G. H. H. Tate, succeeded in climbing it, while Mr. R. S. Deck and the Ecuadorean collectors A. and R. Ollala secured a collection of 6748 skins of which 1165 came from above the 3000 ft. level.

In order to have comparative material the Museum had sent the Lee Garnett Day expedition, also under Mr. Tate, to Roraima, in 1927, and, although fires had destroyed much of the forests on the mountain sides, Mr. T. D. Carter, ornithologist of the party, was able to secure a collection of 831 specimens.

Dr. Chapman in a previous paper has described the many new forms discovered on Duida and in the present report¹ he compares the faunas of the two mountains, discusses their origin and adds a detailed annotated list of all species and subspecies obtained above 4000 ft. on Roraima and above 3250 ft. on Duida. Mr. Tate's descriptions of the several collecting localities and numerous illustrations add to the interest of this important report.

Dr. Chapman's studies show that the upper zonal avifauna (mainly Subtropical) on the two mountains is essentially alike while the existence of other high mountains north of the Pacarima range indicates that the fauna supposed to be peculiar to Roraima and its immediate vicinity probably covers a much larger area. On Roraima the Subtropical and Tropical faunas meet at about 4000 ft. and interosculate, while on Duida they meet at about 3200 ft. and their boundaries are more sharply defined. There are evidences of the former existence of a Temperate Zone on both mountains. About a quarter of the indigenous birds have been derived from Tropical ancestors, about a quarter are too distinct to afford evidence of their immediate ancestry, while the remainder is composed chiefly of forms showing more or less resemblance to birds of the Andean Subtropical and in smaller part to the Andean Temperate Zones.

The existence of these representative forms in such widely separated regions, the author considers, may be explained by the disappearance of their common ancestors in the intervening area, probably due to climatic changes.

There is a good deal of discussion of discontinuous distribution which sometimes leads the author rather far afield, as in the argument that the so-called *Zonotrichia capensis*, found through so much of South America all the way to Cape Horn, and recently in Santo Domingo, is of North

¹ The Upper Zonal Bird-Life of Mts. Roraima and Duida | By Frank M. Chapman | Bull. Amer. Mus. Nat. Hist., Vol. LXIII, 1931, Art. I. New York, 1931, pp. 1-135, figs. 1-42.

American origin. While we do not presume to disprove Dr. Chapman's argument, nevertheless are we sure that this bird really is a *Zonotrichia*? No one is more anxious than the reviewer to keep down the number of genera but when the lumping involves important questions of zoogeography should we not also consider the possibilities of parallel development of structural characters, especially in the Fringillidae where they are not very emphatically marked at best?

However, theorizing on such problems is fascinating both for the author and the reader and only thus may we reach more definite conclusions. We have again to congratulate Dr. Chapman on a contribution of the first importance to neotropical ornithology, as well as Messrs. Sydney F. Tyler, Jr. and Lee Garnett Day whose support made these explorations possible.

We notice a number of typographical errors missed by the proof-readers which is unusual in the American Museum's publications. On p. 40 the genus *Myrmothera* appears as *Myrmotherula*, in the last line on p. 42 the word "follows" has not been stricken out, the reference to Fig. 24 on p. 46 is wrong and Dr. W. L. Abbott's name appears as "W. J." Abbott (p. 51). —W. S.

Pickwell on the Prairie Horned Lark.—This monographic study¹ to use the author's words "attempts to give the history of the Prairie Horned Lark as carefully and extensively as the literature, more than 220 visits to occupied territory, 33 nests and over two years of study at Evanston, Ill., and Ithaca, N. Y., would allow." Although the result seems to have very satisfactorily justified the "attempt," the author nevertheless finds, as have many others engaged in similar studies, that "the things yet to be learned seem more momentous by far than the few things learned."

The bulk of the report deals with reproduction and ecology of the nesting site and these subjects have been treated exhaustively forming a most valuable contribution not only to the life history of this particular bird but to bird behavior in general. Song, song flight, nest location, and detailed continuous observation of nesting birds during incubation and feeding periods, as well as the development of the young are discussed, with tables and graphs to further illustrate the investigations. The section on history is not so convincing and although we do not question the correctness of the general theory of the dispersal of the bird coincident with forest destruction yet we feel that it must have been present in many places long before there was any definite record and in some states, particularly Pennsylvania where we have some personal knowledge, we are inclined to think that lack of observers and ignorance of the existence of a breeding form of Horned Lark were responsible for the apparent absence of the bird in earlier times.

A number of excellent photographs of nests and young illustrate this valuable publication and there is a good bibliography although records of

¹ The Prairie Horned Lark | Gayle B. Pickwell | Trans. St. Louis Acad. Sci., Vol. XXVII, pp. 153, figs. 1-18, pl. 1-34. August, 1931. Price \$2.00.

the bird in Pennsylvania published in 'Cassinia' are omitted, one of which shows the birds present in the breeding season in Fulton Co., not far from the Maryland line, as early as 1905.—W. S.

Bowen's Catalogue of Sudan Birds.—In 1926 while still Deputy Curator of the Sudan Government Museum, Mr. W. Wedgwood Bowen published the first part of a 'Catalogue of Sudan Birds' carrying the subject as far as the Passeres. More recently the birds of this group have been listed and the second part appeared in August, 1931, the author having meanwhile removed to America and become Assistant Curator of Birds at the Academy of Natural Sciences of Philadelphia.

The "Catalogue"¹ is more than the title would imply as there are keys for determination of the families and for the species under each family; also a very brief statement of character of occurrence, habitat and relative abundance of each species and subspecies, and data for all specimens in the Sudan Government Museum. Seven hundred species are listed and a number of subspecies, while in part II there is an appendix supplying additional information, changes in names and twelve additional species with several subspecies. A second appendix consists of a list of type localities, in Sudan, from which birds have been described and a list of the species with references. There is an excellent faunal map published in each part. Mr. Bowen has furnished a very handy list not only for those interested in studying Sudan birds in the field but for ornithologists in general who have to deal with birds from this part of Africa.—W. S.

La Touche's 'Birds of East China.'—Part II of Vol. 2 of this valuable work² has appeared covering the Goatsuckers, Owls, Ospreys, Vultures and part of the Falconidae.

The method of treatment follows that of the preceding parts and in the discussion of habits etc., there is much about the nesting of the eagles and also their capture for purposes of falconry and for their feathers, while several halftones from photographs show the method of netting them as well as falconers carrying eagles at the railroad stations. We congratulate Mr. La Touche on the progress of his work which we can assure him from personal experience is of the greatest aid to those working up Chinese collections.—W. S.

Chisholm's 'Nature Fantasy in Australia.'—Many of our readers are doubtless familiar with the writings of Alec Chisholm who has probably

¹ Catalogue of | Sudan Birds | Based on the Collection in the | Sudan Government Museum | (Natural History) | By | W. Wedgwood Bowen, B.A. (Cantab.). [etc.] | Part I—Struthionidae to Picidae | Sudan Government Museum Publ. No. 1, May 1926, pp. 1–120.

Part II. Alaudidae to Fringillidae. Sudan Govt. Mus. Publ. No. 2, August 1931, pp. 1–163. Price P. T. 20 (= 4 shillings) per part.

² A Handbook | of the | Birds of China | [etc.] By | J. D. D. La Touche. Vol. II, Part II, Taylor and Francis, Red Lion Court, Fleet Street, London, E. C. 4. Pp. 97–192, January 1932. Price 7s. 6d. net per part.

done as much to interest the general public, both of Australia and abroad, in Australian birds as any other man, and his latest book¹ under the above title will receive, as it deserves, a hearty welcome.

This time he has picked Sydney and its environs as the scene of his studies—Sydney where white men first set foot on Australian soil and where now stands a mighty city of a million inhabitants, but fortunately man has confined himself mainly to the vicinity of the shore and much reasonably wild country still remains close at hand where choice flowers and interesting birds still are to be found in plenty, and these are what Mr. Chisholm tells us about.

The wonderful Lyre-bird, thanks to its shyness, still persists in numbers no less than six pairs nesting in the National Park close to Sydney, and in a suburb of the city where a pair built, the song of the female imitated the cackling of domestic fowls in an adjoining yard. Many will be surprised to learn that this bird, chiefly known by its wonderfully constructed tail forming a beautiful representation of a lyre, is a gifted mimic. "Imagine yourself" says our author, "lounging on the veranda of the cabin [used by bird watchers in the National Park] listening idly to the myriad voices of the Bush. Presently you hear a resonant call, as from a voice throbbing with power. The opening shout slips now into the wail of the cockatoo, changes quickly to the crack of the whip-bird, resolves into the screeching of a flock of parrots, and proceeds to encompass many voices of the neighborhood." The activities of the bird are then described as were made familiar to members of the A. O. U. who attended the Salem meeting by the motion pictures shown there by Mr. Francis R. Cope. It is interesting also to know that the Satin Bower Bird also is to be found in the Sydney region and Mr. Chisholm makes us familiar with its habits and its bower. He also comments on the wonder of its eye of cerulean blue with scarlet ring about the pupil and recalls the remark of a native bushman: "If I met a woman with eyes of that tone I would follow her anywhere!"

But we must let the reader pick out the most interesting points for himself. The book is a combination of good writing and good photography and teems with suggestive reflections on the origin of birds and their habits as well as with bits of historic lore.

We congratulate Mr. Chisholm on another success.—W. S.

Townsend's 'From Panama to Patagonia.'—Dr. Charles W. Townsend who since his retirement as a medical practitioner, some years ago, has been spending most of his time in travel and is at the present time in Africa, recently made a tour of South America down the west coast and up the east as far as Rio de Janeiro, going short distances inland to visit

¹ Nature Fantasy | in Australia | By | Alec H. Chisholm | Author of *Birds and Green Places* | *Mateship with Birds*, etc. | Illustrated with a Coloured | Plate, a Regional Map and | Eighty Photographs from Life | by the Author and Others | London Toronto Vancouver | J. M. Dent & Sons Ltd. | [1932] Pp. i-xiv + 1-196. Price 12s. 6d. net.

Quito, Cuzco, La Paz, Buenos Aires and Asuncion. An account of this trip¹ prefaced by one to Yucatan and Mexico (no dates are given) is presented in the volume before us.

While the author had little time for ornithological study there is frequent mention of conspicuous birds especially on the guano islands of Peru, but the book deals mainly with countries, inhabitants and scenery, with many historical references and personal experiences.

It is very good reading and interesting to anyone who has covered part or all of his itinerary or contemplates following in the author's footsteps. The reviewer's experience is limited to the chapter on Yucatan and Mexico but so accurately does Dr. Townsend's account tally with conditions as he found them there over forty years ago that comparatively little change seems to have taken place.

A number of illustrations from photographs by the author depict characteristic scenery. 'From Panama to Patagonia' is a worth while book of travel and should prove of interest and value to a large circle of readers.—W. S.

Delacour and Jabouille: 'Les Oiseaux de l'Indochine Française.'—Since December 1923 until February 1930 Messrs. Delacour and Jabouille have been spending the winter months in ornithological explorations in French Indochina, their five trips yielding some 20,000 specimens. These have been reported upon in the 'Revue de Ornithologie' and 'The Ibis' and the papers noticed in the pages of 'The Auk.'

The authors have now embodied their observations and such other information as has been published on the birds of the country in an elaborate work² in four volumes entitled 'Les Oiseaux de l'Indochine Française' constituting one of the outstanding ornithological publications of the year. It is a royal octavo with wide margins, beautifully printed on light weight paper and illustrated by 67 colored plates from paintings by Grönvold, some of which have appeared in the previous publications on the individual expeditions. There are addenda and systematic and alphabetical indices to each volume and each has its own pagination although the plates are numbered continuously.

¹ From Panama | to Patagonia | By | Charles Wendell Townsend | Author of "A Labrador Spring," "In Audubon's Labrador," | "Sand Dunes and Salt Marshes," "Beach Grass, etc." | With Forty-five Illustrations | from the Author's Photographs | and a Map | H. F. & G. Witherby | 326 High Holborn London W. C. 1. Pp. 1-224, pl. not numbered. Price 12s. 6d.

² Exposition Coloniale Internationale | Paris 1931 | Indochine Française | Les Oiseaux | de | l'Indochine Française | par | J. Delacour & P. Jabouille | Tome I. [Colymbiformes, Procellariiformes, Lariformes, Pelecaniformes, Ardeiformes, Anseriformes, Charadriiformes, Gruiformes and Galliformes]. Pp. 1-lvi + 1-279 + addenda, one page + i-xvi. Pls. I-XIV, figs. three. Tome II. [Columbiformes, Falconiformes, strigiformes, Psittaciformes, Cuculiformes, Piciformes, Trogoniformes, Cameimulgiformes, Apodiformes, Coraciiformes.] Pp. 1-339 + addenda one page + i-xi. Pls. XV-XXVII. Tome III. [Passeriformes] Pp. 1-348 + i-lxxiii. Pls. XXVIII-L. Tome IV. [Passeriformes]. Pp. 1-296 + i-lxvi. Pls. LI-LXVII. Date of publication August 15, 1931.

Besides the original reference to the species and a limited synonymy relating to French Indochina the matter is presented under the headings, Description, Measurements, Habits and Distribution; the first being accorded the most space. There are also descriptions of family and generic characters under the respective headings. The birds figured seem to comprise the forms most characteristic of the country.

We note that the authors have been troubled with the same problem that now confronts all compilers of lists or faunal works, i. e. how to treat and number species and subspecies. They have adopted the plan of numbering every form regardless of rank. The binomial name is always given, however, whether the "typical" race occurs in the region or not, with the trinomial following it—much as in the 1910 edition of the A. O. U. 'Check-List,' but it is left unnumbered if divided into races. The vernacular name is quoted only after the binomial.

Volume I contains a chart of a bird with explanations of terms used in plumage description; introductory explanations of nomenclature and classification; an historical account of the explorations of Indochina with two maps; a discussion of geography and zones; and a bibliography. The zonal treatment seems to require much further study since the authors have simply suggested three regions from south to north, each with zones limited respectively by the 100 m.; 1000 m.; 2000 m. levels and over 2000 m.

Ornithologists the world over will be indebted to the authors for this magnificent work which gives us such an accurate account of the ornithology of a little known region and it will form the basis for work in Siam and many other adjoining countries for some time to come making a splendid companion to Robinson's 'Birds of the Malay Peninsula.' We tender them our heartiest congratulations.—W. S.

Swann and Wetmore: 'A Monograph of the Birds of Prey.'—After an interval of a year and a half publication of this notable work is resumed and we have before us Part X, constituting the first part of Volume II.¹

Some of the largest species of the order are now treated including the Lammergeyers and eagles of the genera *Uroaetus* and *Aquila*—the Wedgetailed Eagle of Australia and the Golden Eagle and its allies; the colored plates represent the first two.

As with the other parts issued since Mr. Swann's death, Dr. Alexander Wetmore is responsible for editing the work from the Swann manuscript and for bringing it up to date.

We are pleased to see this important monograph continued as it was rumored that with the completion of the first volume the publication would cease and a good work on the birds of prey is badly needed.—W. S.

¹ A | Monograph | of the | Birds of Prey | (Order Accipitres) | By | H. Kirke Swann | Edited by | Alexander Wetmore | [etc.] London | Wheldon & Wesley, Ltd. | 2, 3 & 4, Arthur Street, New Oxford Street, W. C. 2. | Part X, December, 1931. Pp. 1-64, 2 plates. Price £1 Os. net, per part.

Buick's 'The Mystery of the Moa.'—In this book¹ the author presents an exhaustive account of the great extinct Moas of New Zealand. While in one chapter he gives us a synopsis of the various species of Moas, some twenty-three in number, the main portion of the work is historical in character and covers in an interesting way the first discovery of Moa bones and the many that have followed, also the search for native traditions relative to the bird and the question of whether it still existed in historic time, all of which has been involved in more or less obscurity and mixed with contradictions and misstatements.

Besides the many bones one specimen of a smaller species of Moa was found in 1878 in Otago, near Queenstown, which still retained portions of the skin and some feathers, while the dried up eyes were still in their sockets. Nine or more eggs of the bird have also been found with the shells in a more or less perfect condition.

While there are several accounts of men who claimed to have seen the Moa, none of them are satisfactorily confirmed and the same is true of the stories told early emigrants to New Zealand by old Maori natives. Our author concludes, after assembling all the evidence, that the extermination of the great birds began with the arrival of the first of the Maori tribes, the Waitaha, in 1470, and was completed about 1770.

There are interesting accounts of the arrival of the first bones in England and of Prof. Richard Owen's researches, while numerous portraits of those connected with the discovery of Moa remains and with Moa literature, as well as pictures of important bones, skeletons, etc., serve as illustrations to this interesting book. There is an Appendix of notes and references to various publications and a good bibliography.—W. S.

Hortling's 'Handbook of the Birds of Finland.'—This excellent work¹ which we have already noticed in these columns is finally brought to conclusion with the appearance of part five although there is no indication of division into parts except for the separate covers, as the pagination is continuous. The work is well printed and thoroughly up to date. Under each species is a description, and accounts of habits, song, nesting, food, distribution and migration, while a paragraph is added giving the derivation of the technical name and the German, English and French vernaculars. The illustrations, of which there are forty-one, consist of photographs of well-mounted birds arranged in groups.

A systematic list of the birds of Finland and a bibliography complete

¹ The Mystery of | the Moa | New Zealand's Avian Giant | By T. Lindsay Buick [etc.] | Published under the auspices of | the Board of Maori Ethnological Research | Illustrated | New Plymouth, N. Z. | Thomas Avery & Sons Limited | 1931. Pp. i-xiii + 1-357. Price 15s.

¹ Ornitolologisk Handbok | med beskrivningar över alla i Finland | anträffade fågelarter och raser | jämte avbildningar | och | enkom utförda ving-och äggmått m. m. | namnförklaringar | Utgiven | av | Dr. Ivar Holting | Helsingfors 1929-[1931] | Pp. 1-1142. Price fmk. 62.50 Dr. I. Hortling. Helsingfors-Brando, Finland.

the work. In the former a clever system of symbols indicates the character of occurrence of each bird: * represents a breeding bird; ↑, a spring migrant; ↓, a fall migrant and (), an occasional visitor.

There are separate generic headings with keys to the species in most cases.

We congratulate Dr. Hortling on his admirable work which will be a standard for our knowledge of the birds of Finland and adjoining regions for many years to come and should interest many citizens of that country in the study and protection of their wild bird life. Our only regret is that being printed entirely in the Swedish language it will not be available to many Americans.—W. S.

Shorter Papers.¹

Bailey, Alfred M.—The Snowy Egret. (*American Forests*, Jan., 1932.)—With admirable photographs of nesting birds on the Louisiana coast.

Bailey, Harold H.—A New Seaside Sparrow from Florida. (*Bull. No. 7. Bailey Mus. Nat. Hist.*, Miami, Fla., Aug. 1, 1931 [Received Dec. 2].)—*Thryospiza maritimus* [sic] *shannoni* (p. 1), Duval Co., Florida.

Bartholomew, James.—Woodcock. (*Glasgow Naturalist*, Dec., 1931.)—A detailed account of the European Woodcock, its habits, migration, etc.

Boulton, Rudyerd.—New Species and Subspecies of African Birds, (*Annals Carnegie Mus.*, Vol. XXI, No. 1, Nov. 14, 1931, pp. 43–56.)—*Gymnobucco calvus vernayi* (p. 44); *Vridibucco coryphaea angolensis* (p. 46); *Macrosphenus pulitzeri* (50) upon which is based *Onychorhinus* subgen. nov. (p. 47); *Apalis cinerea grandis* (p. 52); *A. bamendae strausae* (p. 53); *Seicercus laurae* (p. 54); and *Laniarius nyasae* (p. 55)—the last from Nyasaland; all the rest from Angola.

Bowen, W. Wedgwood.—A New Subspecies of Woodpecker from East Africa. (*Proc. Acad. Nat. Sci. Phila.*, LXXXIII, p. 451, Dec. 14, 1931.)—*Campetherina nivosa yalensis* (p. 451) Kenya Colony.

Bowen, W. Wedgwood.—Geographical Variation in *Trachyphonus margaritatus*. (*Proc. Acad. Nat. Sci. Phila.*, LXXXIV, pp. 9–10, Feb. 20, 1932.)—*T. m. berberensis* (p. 10), Berber Prov., Sudan.

Bradlee, Thomas S. and Mowbray, Louis L.—A List of Birds Recorded from the Bermudas with Additional Notes Compiled by Warren F. Eaton. (*Proc. Boston Soc. Nat. Hist.*, Vol. 39, No. 8., pp. 279–382, Dec. 1931.)—An excellent annotated list of 246 species of which 59 have been observed but once; 33 twice; 18 three times; and 28 four or five times—a total of 138 “accidentals.” Besides the extinct Cahow and the very rare Manx Shearwater, 22 species have been known to breed or are resident and

¹ Including articles in journals other than purely ornithological. All comments by the Editor unless otherwise initialed.

84 are transient visitants, of which latter the Passenger Pigeon and Eskimo Curlew are now extinct. The time of greatest number of species is October when 35 casuals and 58 regular visitants have been observed, while March is the spring peak. In June only 29 species have been noted. There is a very good bibliography but a little book, 'Birds of the Bermudas' with colored plates, published recently by the Bermuda Book Store in Hamilton, without mention of either author or artist, is apparently omitted. Its chief distinction is the plate representing the Bobolink going up the trunk of a tree Woodpecker-like, the artist evidently feeling that the pointed tail-feathers must be accounted for!

Buchan, John, and others.—The Early Autumn Migration at St. Kilda in 1931. (*Scottish Naturalist*, Jan.-Feb., 1932.)—Data on twenty-four species mainly water birds.

Canadian Christmas Bird Censuses.—(*Canadian Field Naturalist*, Feb., 1932.)

Carriker, M. A., Jr.—Descriptions of New Birds From Peru and Bolivia. (*Proc. Acad. Nat. Sci. Phila.*, LXXXIII, pp. 455-467, Jan. 21, 1932.)—Forms of *Pionopsitta*, *Pipra*, *Pipreola*, *Muscisaxicola*, *Todirostrum*, *Euscarthmornis*, *Myiophobus*, *Tachurus*, *Thamnophilus*, *Microrhopias*, and *Sicalis*.

Carriker, M. A., Jr.—Additional New Birds from Peru with a Synopsis of the Races of *Hylophylax naevia*. (*Proc. Acad. Nat. Sci. Phila.*, LXXXIV, pp. 1-7, Feb. 20, 1932.)—*Upucerthia aricomae* (p. 1); *Phlegocryptes melanops juninensis* (p. 2), *Hylophylax naevia peruviana* (p. 4) and *H. n. inexpectata* (p. 6).

Carter, T. Donald.—Jimmy. (*Natural History*, Nov.-Dec. 1931.)—Experiences with a captive Snowy Owl.

Chapin, James P.—Day by Day at Lukolela. (*Natural History*, Nov.-Dec. 1931.)—An interesting account of bird life on the Congo.

Chapman, Frank M.—A New Race of *Brachygalba lugubris* from Northeastern Brazil. (*Amer. Mus. Novit.*, No. 450, Jan. 21, 1931.)—*B. l. naumburgi* (p. 1), Piauhy.

Chapman, Frank M.—The Nesting of Wagler's Oropendola on Barro Colorado Island. (*Smithsonian Report for 1930*, pp. 347-386.)—Reprinted from *Bull. Amer. Mus. Nat. Hist.*, LXVIII.

Collins, Henry H., Jr.—Standard Field Card of Eastern Birds.—A list of birds of eastern North America by common names in order of the new A. O. U. 'Check-List' for use in the field in checking up the day's observations. A similar list gives the technical names in the same order. Each may be secured at the rate of 25 for \$1. or 100 for \$3. from the compiler, Chestnut Hill, Philadelphia.

deSchauensee, Rodolphe M.—A New Species of Flycatcher from Demaraland. (*Proc. Acad. Nat. Sci. Phila.*, LXXXIII, pp. 449-450, Dec. 14, 1931.)—*Bradornis herero* (p. 449), Karibib, Damaraland.

Duse, Antonio and Toschi, Augusto.—Recovery of Banded Birds,

1930. (*Ricerche di Zool. Applicata alla Caccia.*, Inst. Zool. Univ. Bologna, Anno 9, No. 3, 1931.)—In Italian.

Duse, Antonio.—The Invasion of *Dryobates m. major* in northern Italy in 1930. (*Ricerche di Zool. Applicata alla Caccia.*, Inst. Zool. Univ. Bologna, Anno 9, No. 4, 1931.)—In Italian.

DuMont, Philip A.—Birds of Polk County, Iowa. (Published by the Des Moines Audubon Society, 1245 W. 37th St., Des Moines, Iowa. Price 50 cts.).—An excellent annotated list of the 289 species and subspecies of birds known from the county. Relative abundance, dates of migration and details of the more important records are given while in the introductory pages the physical features, ecology and ornithological history of the county are considered. The list has evidently been very carefully compiled and the literature thoroughly consulted with a highly satisfactory result. A curious error occurs frequently, doubtless attributable to printer or proof reader, i. e. the use of the word "specie" which is *not* the singular of "species"!

Eaton, Warren F.—Causes of Decrease of Our New Jersey Birds. (*Special Bull. No. 1, New Jersey Audubon Society*, Price 10 cts.).—It is estimated that the original list of breeding species in Hudson County was 112 while now it is reduced to 42, and elsewhere similar comparisons may be made. The increase in human population in New Jersey is shown to be from 184,000 in 1790 to upwards of four million in 1930, this and the activity of human agencies are responsible for the decrease in birds. Coastal marshes are transformed into sandy deserts where rubbish may be dumped, forests are removed, streams polluted etc., etc., a sorry story, and if extensive sanctuaries are not established many species of birds will be gone forever. All that the writer says of New Jersey is true of practically all states. New England is taking the lead in the sanctuary movement, let other sections follow!

Ghigi, A. and A. Duse.—On the Migration of Crossbills in northern Italy and their passage through western Europe in 1930. (*Ricerche di Zool. Applicata alla Caccia.*, Inst. Zool. Univ. Bologna, Anno 9, No. 5, 1931.)—A summary of the twenty-five invasions of these birds which have been recorded in Italy from 1801 to 1930 is presented. During the last invasion no less than 3799 of the birds were banded and of these 277 were recovered, 246 in Italy, 23 in France and Switzerland, 6 in Spain and 2 in Portugal. Maps and full details of these recoveries with a discussion of wind conditions are presented. [In Italian.]

Grinnell, Joseph.—Type Localities of Birds Described from California. (*Univ. Calif. Publ. in Zool.*, Vol. 38, No. 3, pp. 243–324, Jan. 1932.)—This is a most carefully prepared list in the compilation of which Dr. Grinnell has expended much time and trouble and has accumulated much historical information of interest and value regarding the older types. It is doubtful if any exception can be taken to his conclusions although a few of his assumptions as to details may perhaps be open to question. American or-

nithologists owe him much for his painstaking work which will also be of help to specialists in other fields who may have to deal with the material obtained by the pioneer collectors. A map and list of type localities with their later names and exact location add materially to the value of the paper.

Griscom, Ludlow.—The Ornithology of the Caribbean Coast of Extreme Eastern Panama. (*Bull. Mus. Comp. Zool.*, LXXII, No. 9, pp. 303-372, Jan. 1932.)—This report is based upon a collection of 1396 skins representing 284 species obtained by H. Wedel on the Caribbean coast of extreme eastern Panama, 1929 to 1931. The region was extremely difficult from the collector's point of view, with dense almost impenetrable jungles and no laborers available. It proved impossible to penetrate to the higher mountains and all collecting was done in the Tropical Zone. Mr. Griscom draws interesting comparisons with the fauna of adjacent regions and presents a well annotated list with much systematic discussion and descriptions of a number of new forms. The collecting was all done at two localities, Permé and Obaldia.

Hartert, Ernst.—Types of Birds in the Tring Museum. (*Novitates Zool.*, XXXVII, pp. 35-52, Dec. 1931.)—Continues the consideration of the Mathews collection of which 74 types are listed in this installment. Of these, 62 are considered identical with other species (many rejected by the describer himself) and three admitted with doubt, leaving only nine definitely tenable according to Dr. Hartert.

Howitt, Henry.—A Short History of the Passenger, or Wild, Pigeon. (*Canadian Field Naturalist*, Feb. 1932.)

Jacques, Francis L.—Canoe Country. (*Natural History*, Nov.-Dec. 1931.)—A bird artist's trip from Lake Superior to Lake of the Woods.

Kalmbach, E. R.—Progress in Western Duck Sickness Studies. (*Science*, Jan. 8, 1932.)—The cause of the disease formerly attributed to "alkali poisoning" is now proven to be due to the bacillus of *Clostridium botulinum*, the cause of "limberneck" in domestic ducks and now known to affect more than sixty species of wild birds. There is, however, an apparent correlation between duck-sickness and alkalinity. Further studies are being pursued.

Klingel, Gilbert C.—Shipwrecked on Inagua. (*Natural History*, Jan.-Feb. 1932.)—A beautifully illustrated article with notes on birds and several photographs of the hummingbird, *Nesophlox lyrura*.

Lowery, George H.—Birds of North Louisiana. (*Bull. Louisiana Polytech. Inst.*, XXIX, No. 4, Nov., 1931.)—This is a well annotated list of the birds, 252 in number, found by the author about Monroe, with additional published matter relative to the region. It is a welcome addition to our knowledge of an interesting section, which seems to have attracted but little attention. We notice a number of typographical errors in the scientific names while Mr. Beyer's name is misspelled on page 3.

McAtee, W. L.—Peafowl and their Care. (*Miscellaneous Publications, U. S. Dept. Agriculture*, No. 127.)—Varieties, range, history, habits in relation to domestication and food are considered.

McAtee, W. L.—Usefulness of Birds on the Farm. (*Farmers' Bulletin*, No. 1682.)—An excellent plea for the birds including the hawks and owls. It seems necessary to publish the information included in this bulletin over and over again and still farmers and game breeders continue to kill hawks, which are their best friends. Some day they will reap the consequences and then all will clamor for protection against the rats and mice.

Mailliard, Joseph.—Birds and Mammals from the Kootenay Valley, Southeastern British Columbia. (*Proc. Calif. Acad. Sci.*, XX, No. 8, pp. 269–290, Jan. 8, 1932.)—Consists of an annotated list of 81 species of birds observed by a California Academy party in the vicinity of Creston, B. C., in the spring of 1928.

Mayr, Ernst.—The Birds of Malaita Island (British Solomon Islands). (*Amer. Mus. Novitates*, No. 504, Nov. 11, 1931.)—An annotated list of 62 species based on the collections of the Whitney South Sea Expedition. Eighteen new forms are described.

Mayr, Ernst.—Notes on the Fantails of the Genus *Rhipidura*. (*Amer. Mus. Novitates*, No. 502, Nov. 9, 1931.)—Based on an examination of some 1100 specimens belonging to 34 different subspecies from more than 60 islands of Melanesia and Polynesia included in the collections of the Whitney South Sea Expedition. Twelve new forms are named.

Mayr, Ernst.—A Tenderfoot Explorer in New Guinea. (*Natural History*, Jan.–Feb. 1932.)—Note on birds of Paradise and other species.

Oberholser, Harry C.—New Birds from Brazil. (*Proc. Colorado Mus. Nat. Hist.*, X, No. 5, Nov. 13, 1931.)—Dr. Oberholser has recently identified a collection made by an expedition from the Colorado Museum to Descalvados, Matto Grosso, Brazil. In this connection he describes *Uroptelia campestris figginsi* (p. 24), *Picumnus arileucus* (p. 25), and *Sicalis pelzelni danisa* (p. 28).

Ricker, W. E.—Physiological Changes and the Origin of Species. (*Canadian Field Naturalist*, Feb. 1932.)—Discusses *Empidonax virescens* and *E. minimus*.

Riley, J. H.—A Second Collection of Birds from the Provinces of Yunan and Szechwan, China. Made for the National Geographic Society by Dr. Joseph F. Rock. (*Proc. U. S. Nat. Mus.*, Vol. 80, Art. 7, pp. 1–91.)—An annotated list of 254 species obtained in Yunnan and Szechwan, partly in the hitherto unexplored snow mountains of Konka Risonquemba which rise to a height of 25,000 ft. Mr. Riley has already described the new forms obtained by the expedition and now presents a complete catalogue of the collection with valuable notes on the relationship of the forms and a complete list of localities. It forms a valuable contribution to the ornithology of a little known section of China.

Rockwell, Robert H.—Under Sail to the Cape Verdes. (*Natural History*, Nov.–Dec. 1931.)—Experiences on the voyage of the 'Blossom,' with a list of the birds of the island of Brava.

Schaanning, H. Tho. L.—International Bird Banding and Results in

Norway. (Privately Published.) [In Scandinavian.]—Upwards of 200 recoveries listed with maps showing the flight lines of many birds, from Norway to the British Isles, Denmark and France.

Schenk, Jakob.—The Prophecy of the Spring Flight of the Woodcock. (*Proc. VII Internat. Ornith. Congress, 1930.*) [In German.]—An interesting consideration of migration and weather conditions.

Shaw, Tsen-Hwang.—Notes on Some Non-Passerine Birds from Szechwan. (*Bull. Fan Memorial Inst. of Biology, Peiping*, II, No. 17, pp. 319-327, Dec. 30, 1931.)—First part of a report on a collection of 900 skins brought to the Biological Laboratory by an expedition sent out to Szechwan in 1930. Thirty-six species are here dealt with leaving the Passeres for a second part.

Snyder, L. L.—The Hawks and Owls of Ontario. (*Handbook No. 2, Royal Ont. Mus. Zool.*, pp. 1-48, Feb. 1932.)—This worthy contribution to understanding of the economic status of the birds of prey includes a valuable discussion of the philosophy of predation which should aid some of its readers to take a more sympathetic view of the hawks and owls. The accounts of the individual species are succinct but satisfying and graphs showing what are the principal elements of the food are presented for all of the species (21) for which a reasonable number of Ontario collected stomachs were available. The line drawings by T. M. Shortt average high in depiction of characteristic poses of the various species. The result is a very neat and useful booklet which deserves to make a great impression on bird protection sentiment with reference to hawks and owls.—W. L. M.

Soper, J. Dewey.—The Blue Goose. (*Canadian Dept. Int. Publication*, pp. 1-64, with map, Price 50 cts.)—While Mr. Soper has published preliminary accounts of his discovery of the breeding grounds of the Blue Goose the final report has only just been received, although published apparently in 1930. This report includes a color plate of the birds from a painting by Allan Brooks, numerous photographs of birds and scenery, discussion of the status of the bird, distribution and migration, breeding ground and climate, habits, breeding season, eggs, nests and young and a bibliography. Mr. Soper considers that the bird is in no danger of extermination or even molestation in its arctic home and as it is seldom seen in migration its future is entirely in the hands of the United States and depends upon adequate protection on the Gulf coast. Mr. Soper's paper is a valuable monograph on a most interesting bird with which his name is always likely to be associated.

Sorianio, Pablo S.—Food Habits and Economic Status of the Brewer and Red-winged Blackbirds. (*California Fish and Game*, Vol. 17, No. 4, Oct., 1931.)—A valuable and instructive state publication.

Stegmann, B.—On the Faunal Distribution of Birds in Southeast Siberia. (*Proc. VII Internat. Ornith. Congress, 1930.*)

Stock, Chester.—Rancho La Brea, A Record of Pleistocene Life in California. (*Publ. No. 1, Los Angeles Museum*, April 15, 1930.)—An

interesting account of the asphalt beds and their study with many pictures of the mounted skeletons of pleistocene mammals. There is also a discussion of the bird remains with restorations of the giant vulture (*Teratornis*) and the turkey (*Parapavo*) from drawings by John L. Ridgway.

Stoneham, H. F.—Field-Notes on a Collection of Birds from Uganda. (*Ibis*, Oct. 1931, pp. 701-712.)—Concluding a paper in 'The Ibis' (1929).

Tufts, R. W.—Annual Convention of Winter Geese. (*Canadian Field Naturalist*, March 1932.)—Flights in Nova Scotia.

Vasvari, N.—On the Food of *Ardea purpurea*. (Studien über die Ernährung des Purpurreihers (*Ardea purpurea* L.), *Aquila*, 36-37, 1929-1930, pp. 267-293.)—The German version of this report is preceded (pp. 231-267) by a somewhat fuller account in Hungarian, which includes detailed reports (in Latin and German) on 113 stomach analyses. Regurgitated food and pellets also were used in conducting the study. The Hungarian section includes a bibliography of 37 titles and information from these references is freely incorporated in the text. Dr. Vasvari who has already published on the food habits of *Botaurus stellaris* and *Ardetta minuta* follows the numerical system in presenting his findings, and in tabulating the food gives the total number of specimens, the number of occurrences, and the percentage of the entire number of stomachs in which each item occurred. In the order of frequency of capture, the main elements of the food of the Purple Heron are the following: Fishes, terrestrial beetles, larvae of water beetles, adult dragonflies, water bugs, mammals, frogs, water beetles, hymenoptera, and crickets.

Of the fishes taken, and it is upon the economic value of these that the ranking of the bird chiefly depends, the most abundant are the common perch, the goldfish, and the rotfeder (*Scardinius erythrophthalmus*). The general conclusion is that the Purple Heron feeds on species which from the fisheries point of view are either of small value or worthless. It is thought that the bird causes no notable damage in wild waters but must be guarded against at artificial fish-rearing establishments. The destruction of mammals, principally meadowmice, and of water beetle larvae and other fish enemies are useful activities. The protection of the species is further urged because of its status as an outstanding member of the Hungarian avifauna.—W. L. M.

Walker, Ernest P.—Wild Life Protection—An Urgent Problem. (*Smithsonian Report for 1930*.)—Mr. Walker has presented this matter in a slightly different light from that in which it is generally approached and demonstrates that wild life for recreational uses and commercialization is worth far more than farm crops or timber for which latter the haunts of wild animals are destroyed and the animals exterminated. He says that proper administration and wild animal husbandry will increase or bring back the supply and recommends the need of competent naturalists to ascertain existing conditions, plan steps for improvement, submit their findings to those in a position to facilitate their execution and to educate the public to the end of obtaining its full coöperation.

He seems to have omitted one vital necessity which is too often impossible of attainment, i. e. the checking of political influence of powerful interests bent on their own immediate financial benefits—such as the lumber and cattle raising interests.

Zimmer, John T.—Studies of Peruvian Birds, II. (*Amer. Mus. Novitates*, No. 509, Dec. 9, 1931.)—Three new forms described with remarks on the systematic relationship of many others.

The Ornithological Journals.

Bird-Lore. XXXIV, No. 1. January–February, 1932.

Goshawk and Barn Owl Breeding in Massachusetts. By Samuel A. Eliot, Jr.

The Christmas Census, which makes up the bulk of this issue, continues to attract intense interest as shown by the 231 lists submitted this year. Cape May, N. J., where the Delaware Valley Ornithological Club had twenty-eight observers in the field, led the eastern states, north of Florida, with 88 species. When the number of persons in the field varies so greatly the results are hardly comparable but where a large number concentrate on a limited area the census has an added value by indicating pretty closely the actual bird population, which an individual census cannot do.

There is a colored plate of the Coot and an excellent photograph of the Horned Owl on its nest by B. C. Hiatt, while Dr. A. A. Allen's illustrated article deals with the Meadowlark.

The Condor. XXXIV, No. 1. January–February, 1932.

A Quest for a Condor. By Bayard H. Christy.—Flight in an aeroplane in southern California failed to detect the birds but they were found by a climb on foot!

David Starr Jordan and his Interest in Birds. By Barton W. Evermann. Observations on Some Breeding Birds of El Salvador, Central America. By Alden H. Miller.—Notes on twenty-two species.

Observations on the Nesting of the Blue-gray Gnatcatcher. By Margaret M. Nice.—Based on observations at Norman, Oklahoma.

Notes on the Occurrence of Water and Shore Birds in the Lochsa Region of Idaho. By R. L. Hand.—An annotated list.

Preliminary Studies of Western Hermit Thrushes. By Thomas T. and Elinor B. McCabe.—This is a presentation of much detailed data based on a study of a series of breeding Hermit Thrushes from western North America. Variation and the unsatisfactory nature of the criteria used in the separation of geographic races are discussed, but in the absence of any summary of results it is difficult to understand just what the authors are attempting to show. Possibly this will be made clear in further studies that they hope to make at a later date. One statement we can heartily endorse that "in the United States, at least, a new race of bird should

now be named only from its metropolis or optimum region and only as seems advisable after the most exhaustive revision of the whole species and comprehension of the relationships of the proposed sub-division." Unfortunately institutions and individuals sponsoring faunal work desire collections to be worked up quickly and novelties described before some one else gets ahead of them! This spirit will, we fear, defer the somewhat Utopian practice above advocated, and it will continue to require twice as much time and energy to dispose of hastily proposed subspecies as it does to publish them.

Notes on a collection of Birds from Mansel Island, Hudson Bay. By George M. Sutton.

Those interested in the work of "controlling" birds by poison should read the detailed observations on the practical extermination of a large colony of nesting Redwings in a so called "experiment."

The Wilson Bulletin. XLIII, No. 4. December, 1931.

The Status, Breeding Range, and Habits of Marian's Marsh Wren. By H. E. Wheeler.—A study of the nesting habits on the Alabama coast with a long series of quotations from literature on the possible occurrence of this bird on the Atlantic coast, but all specimens from the latter region seem to be *griseus* and statements to the contrary are based upon mis-identification.

The American Egret and the Little Blue Heron in Ohio During the Summer of 1930. By Lawrence E. Hicks.—A detailed account of the "unusual" northward migration which, however, seems to be becoming yearly less unusual in most parts of the country.

The Effect of Pole Traps on Harmless and Beneficial Species. By H. M. Wight.—A large number of beneficial birds including song birds are caught but few of the harmful hawks. The author urges limiting the use of the pole trap; but why not make it unlawful as in New Jersey and possibly some other states?

Winter Food of Oklahoma Quail. By Lois Gould Bird and R. D. Bird.

The Oölogist. XLVIII, No. 12. December, 1931.

Then and now. By W. E. Snyder.—This is a series of excerpts from Krider's 'Forty Years Notes of a Field Ornithologist.' It is a pity that the author of this paper did not read Mr. Brewster's review of the book wherein he explains that it is "the offspring of a fading memory" Mr. Krider the old gunsmith of Philadelphia had had ornithological experiences galore which would have been important if put promptly on record, but was quite unfitted for literary efforts and this little book published in his declining years was most unfortunate and had better have been forgotten.

Oyster-catcher and Piping Plover in New Jersey During August 1931. By L. S. Kohler.—Unfortunately the birds called "oyster-catcher" were in all probability Black Skimmers which are common at the locality

mentioned and are so called by the natives. The author's remarks fit these birds but do not tally with the habits of the Oyster-catcher.

Bird Banding. III, No. 1. January, 1932.

Studies of Swallows by the Banding Method. By Seinosuke Uchida.—In Japan.

Cobb Island. By O. L. Austin, Jr.—A most interesting account of this historic island with details of a bird banding trip during the past summer and summaries of the breeding colonies of gulls, terns, skimmers, etc.

Notes on Protocalliphora During the Summer of 1931. By Charles W. Johnson.—Further data on this blood-sucking fly and methods of protecting young birds from its attacks.

The Migrant. II, No. 4. December, 1931.

Interesting notes on Tennessee ornithology including the breeding of the Prairie Horned Lark in the state, a new southernmost record.

Iowa Bird-Life. I, No. 4. Decmeber, 1931.

Notes on Iowa birds with a "Call to Arms" in defense of hawks and owls, and to abolish shooting of snipe and woodcock.

The Cardinal. III, No. 3. January, 1931.

The Birds of Oglebay Park. By R. L. Fricke.—In West Virginia.

An Episode with Golden-wings. By E. W. Arthur.—In Allegheny Co., Pa.

The Classification of Birds. By Rudyerd Boulton.—An excellent account of the subject and an illustration of what may be done in the way of a museum exhibition illustrating classification.

An Expedition to Churchill, Hudson Bay. By George M. Sutton.

The Gull. XIII, No. 12. December, 1931.

Nesting Solitaires. By Emily Smith.—As observed in Yosemite National Park. Many other interesting notes on California birds in the November and January issues; with lists of species seen on Audubon Association trips.

The Flicker. III, Nos. 3 and 4. [Mimeographed journal.]

Devoted to Minnesota bird notes.

The Raven. II, No. 11-12. November and December, 1931, and III, No. 1. January, 1932. [Mimeographed journal.]

Notes on Virginia birds.

Aviculture. [Series II] III, No. 12. December, 1931.

An American Collector in the Far East. By C. B. Glick.—Collecting live birds in the Philippines and the Malay region.

Numerous notes on breeding and aviculture, and an account of the foreign bird show at Long Beach, Calif.

Aviculture. [Series II] IV, No. 1. January, 1932.

Some Notes on Color Breeding Budgerigars. By J. Webster Johnston.
The House Finch or California Linnet. By W. E. Hurlburt.

Birds of N'Gamiland. By Rodolphe M. de Schauensee.—Account of experiences on an expedition in the interests of the Academy of Natural Sciences of Philadelphia and the author's aviary.

The Ibis. [13th series] II, No. 1. January, 1932.

Birds Collected by Mr. G. L. Bates in Sierra Leone and French Guinea, etc. By D. A. Bannerman.—Systematic list continued.

Notes on the Birds of Snipe and the Woodcock Islands in Beagle Channel [southern Patagonia]. By P. W. Reynolds.

Ornithology of Albania. By C. B. Ticehurst and H. Whistler.

Report of the Committee on the B. O. U. List.—Two North American birds affected are the Redpoll which becomes *Acanthis flammea flammea* Linn. and the Snowy Owl which is changed to *Nyctea scandiaca* Linn.

Bird Notes on a Trip to Lapland. By Dr. Ivar Hortling and E. C. Stuart Baker.—An annotated list in which we note an apparently breeding specimen of *Gavia adamsi*.

Additions and Corrections to the 'Systema Avium Australasianarum' Part II. By G. M. Mathews.—Thirty pages of changes, etc.

British Birds. XXV, No. 7. December, 1931.

Movements of Ringed Birds (continued). By H. F. Witherby.—Cuckoos banded in England were recovered in Germany, Italy and Cameroun; many other interesting records.

British Birds. XXV, No. 8. January, 1932.

On the Breeding Habits of the Storm Petrel. By R. M. Lockley.—With photographs of old and young and of the burrow.

The Birds of Lundy Island from 1922 to 1931 with Special Reference to Numerical Fluctuation. By T. H. Harrison.

On the Normal Flight Speed of Birds. By B. B. Roberts.—A valuable paper as "accentuating or modifying" the results tabulated by T. H. Harrison in the same journal, XXV, p. 86.

The Oologists' Record. XI, No. 4. December 1, 1931.

Observations on the Peregrine Falcon and on the Hobby. By Desmond Nethersole-Thompson.

Field Work of British Ornithologists Abroad in 1931. By F. C. R. Jourdain.

Numerous notes on nests and eggs.

Avicultural Magazine. IX, No. 12. December, 1931.

Paradise Birds from North-east New Guinea. By D. Seth Smith.—An account of Shaw Mayer's collection from the Finisterre Mountains.

This and the January issue are full of interesting accounts of aviaries in England and France and of results of aviculture.

The Emu. XXXI, Part 3. January, 1932.

The Flock Pigeon. By W. D. K. MacGillivray.—With an excellent color plate of the bird (*Histriophaps histrionica*).

History and Early Records of Ornithology in Victoria. By D. J. Dickson.

Proceedings of the Thirtieth Annual Congress of the R. A. O. U., Melbourne, 1931.—By C. E. Bryant.

The Birds of the Camp-out, Wyperfeld, 1931.—The annual field trip following the meeting of the Australian Ornithologists' Union. Eighty-six species were seen including ten kinds of parrots.

There are numerous reports of officers and district societies and the address of the president, Dr. A. Chinery, on 'The Study of Birds by the Nature Lover Apart from the Scientist,' with a portrait of the author.

L'Oiseau. I, No. 10-11-12. October-December, 1931. [In French.]

Notes on the Birds of the Philippines (continued). By M. Hachisuka.

List of Birds Obtained in 1928 by G. L. Bates in Northern Nigeria and Senegal, etc. By D. A. Bannerman.

A Study of Aepyornis. By Henry Cauderay.—With a full bibliography.

A Contribution to Our Knowledge of the Birds of Indre-et-Loire and Indri. By J. Domaniewski.

Observations on the Birds of the Central Pyrenees. By G. Olivier.

Numerous notes on aviculture, bird cages, etc.

Journal für Ornithologie. LXXIX, Heft 4. October, 1931. [In German.]

A Contribution to the Morphology and Evolution of the Tongue in Trochilidae, Meliphagidae and Picidae. By Hans Scharnke.—A most important paper with numerous illustrations showing not only the structure of the tongue itself but the arrangement of the attached muscles in the woodpeckers. The papers of Pickens, Sherman and Lucas on hummingbirds are quoted.

The Birds of the Kuriles. By Y. Yamashina.—An annotated list of 239 species with a table showing distribution of resident forms, and a bibliography.

On the Breeding Grounds of *Oidemia fusca* and *Arenaria interpres*. By F. E. Stoll.—With beautiful photographs of the birds on their nests, taken on the west coast of Osel Island, Russia.

Descriptions of New Birds from Africa. By O. Neumann.—*Poicephalus gulielmi permistus* (pl. 547) Mau and Elgon; *Agapornis taranta nana* (p. 550) Targa, Gofa; *Caprimulgus koesteri* (p. 550) Benguella; *Cisticola emini bailunduensis* (p. 551) Benguella.

Bird life of the Obedska Bara. By H. Steinmetz, Jr.—In Jugoslavia.

Three letters from C. L. Brehm to H. Lichtenstein are published.

Journal für Ornithologie. LXXX, Heft 1. January, 1932. [In German.]

The Spotted Eagle (*Aquila pomerina*).—A Contribution to its Life History. By Horst Siewert.—An exhaustive paper illustrated by numerous excellent photographs and drawings. A worthy companion to Herrick's papers on the Bald Eagle.

Observations of the Hobby (*Falco s. subbuteo*).—By N. Tinbergen.

Reflections on the Recognition of specific Inherited Tendencies in Birds. By Konrad Lorenz.

An Examination of the Palaearctic Snow Finches. By B. Stegmann.—The genera *Montifringilla*, *Pyrgilauda* and *Leucisticte* are considered and the following new forms described: *M. adamsi xerophila* (p. 102) Humboldt Mountains; *P. ruficollis isabellina* (p. 103) North Tibet; *P. blanfordi ventorum* (p. 104) North Tibet; *L. brandti incerta* (p. 113) Humboldt Mountains; *L. b. intermedia* (p. 113) Burchan-Budda Mts.

On the Structure of the Tongue in the Nectariniidae, Promeropidae, and Drepanidae with Remarks on the Systematics of the Flower-seeking Passeres. By H. Scharnke.

H. Steinmetz has a paper on the hatching of the egg with comments on Kirkman's article in 'British Birds' for March; there are also accounts of the monthly and annual meetings of the German Ornithological Society.

Ornithologische Monatsberichte. XXXIX, No. 6. November, 1931. [In German.]

Preliminary Report on the Ornithological Results of the Heinrich Expedition of 1930–1931. By E. Stresemann (continued).—*Phylloscopus trivirgatus henrietta* (p. 168) *Cacomantis heinrichi* (p. 169), *Eudynamis scolopacea corvina* (p. 170) and *Caprimulgus macrurus schillmöllerii* (p. 170) are described as new, all from Halmahera.

Three New Birds for Palestine and Syria. By J. Aharoni.—*Loxia c. curvirostra*, *Rhamphocorys clot-bey* and *Strix bulleri*.

Further Histological and Experimental Investigations on the Color of Chicken Feathers. By G. Steinbacher.

Additional forms described in the short notes are *Certhia brachydactyla nigricans* (p. 181) from east Spain, by Jordans; *Rhamphozosterops sanfordi* (p. 182) gen. et sp. nov. Ponape, by E. Mayr; *Lorius amabilis* (p. 182) New Britain, by E. Stresemann; and *Cyanopica cyana pallescens* (p. 184) Ussuri-Land and *Erythrina thura deserticolor* (p. 184) South Kukumor Mt., by B. Stegmann.

Ornithologische Monatsberichte. XLV, No. 1. January, 1932. [In German.]

Studies of a Honey Buzzard Eyrie. By G. Thiede and A. Zänkert.

Observations on the Nest of Bonelli's Warbler. By F. Prenn.

Preliminary Report on the Ornithological Results of the Stein Expedition 1931–32. By E. Stresemann and K. Paludan.—Eight new forms are described from Waigeu the types of which go to the American Museum of Natural History the expedition having been made possible by Dr. L. C. Sanford of that institution.

Beiträge zur Fortpflanzungs-biologie der Vögel. VIII, No. 1. January, 1932. [In German.]

Life History of the Spotted Eagle. By V. Wendland.

The Copulation of the Ring Dove and Rock Dove. By F. Haverschmidt. Food Habits of the Little Owl. By L. and N. Tinbergen.

On the Habits of *Glaucidae* nordmanni. By H. Grote.

Observations on the Breeding Stork. By E. and T. Schüz.

Many other notes on nesting and eggs.

Der Vogelzug. II, No. 4. October, 1931. [In German.]

The Migration of Siberian Ducks. By Werner Rüppell.—With map showing flight lines from banding stations in southern Asia.

On Bird Flight and Adverse Wind. By E. von Holst.

Further Observations on the Body Temperature of Migrating Birds at Lighthouses. By F. Groebels.

Results of Bird Banding in Denmark. By O. Fabricius and A. Vedel Tåning.

Der Vogelzug. III, No. 1. January, 1932. [In German.]

Devoted mainly to consideration of the disastrous swallow flight of last autumn. viz: The Result of the Cold Wave of September 1931 on the Migration of Swallows. By observers in Hungary, Austria and Switzerland.

Observations on Swallows on the Occasion of the Migration Catastrophe of September, 1931. By Konrad Lorenz.

On the Migration of German Swallows in Europe. By R. Drost and W. Rüppell.

Observations of Banded Swallows in Dillich and Vicinity. By A. Boley.

Numerous other notes on banding and migration in Europe.

Der Ornithologische Beobachter. XXIX, Heft. 2. November, 1931. [In German or French.]

New Observations on the Nesting of the Grebe (*Podiceps n. nigricollis*). By H. Noll.—With several excellent photographs.

Der Ornithologische Beobachter. XXIX, Heft. 4. January, 1932.

Contribution to a Study of the Avifauna of the Alps. By O. Meylan. These as well as the December issue contain much information of the birds of Switzerland.

Ardea.¹ XX, Af. 3. November, 1931. [In Dutch.]

On the Birds of the Dutch West Indies. By M. G. Rutten.—A fully annotated list of 84 species with numerous drawings many of them copied

¹ G. A. Brouwer, Petrus Campersingel 239. Groningen, Netherlands. Subscription f 2.50 per year. For editors and subscriptions of other journals see January 'Auk.'

from other works and an outline map of the three islands, Curaçao, Aruba and Bonaire.

W. H. Van Dobben discusses hybrid gulls (*Larus argentatus* × *L. fuscus*) and F. Haverschmidt the breeding of immature plumaged *Larus ridibundus*.

There are additional articles and notes on the birds of Holland.

Orgaan der Club van Nederlandsche Vogelkundigen. IV, No. 2 and No. 3. October, 1931 and January, 1932. [In Dutch.]

Devoted mainly to the ornithology of Holland.

In No. 3 is an article on the African Parrot (*Psittacus erithacus*). By Snouckaert van Schauburg.

Ornis Fennica.¹ VIII, No. 2 and 3-4. [In Swedish.]

Consists wholly of papers and notes on the birds of Finland.

Revista Italiana di Ornitologia.² I, No. 3. July, 1931. [In Italian.]

Ornithological Observations on an Excursion to Morocco in April, 1930. By Alexander Ghigi.

On a Hybrid Green Finch and Serin. By E. Arrigoni degli Oddi.—With color plate.

On the Nesting of the Kite (*Milvus migrans*). By E. Arrigoni degli Oddi.—With many illustrations.

Birds Collected on the Desio Expedition to Cirenaica in 1930. By E. Moltoni.

Kócsag.³ IV, No. 4. 1931. [In Hungarian and German.]

My Ornithological Trip in Roumanian Dobrudscha. By Graf Karl Kornis.

Sea Life in Mid September. By H. W. Madoc.—England to Gibraltar. [In English.] Also many notes on Hungarian Ornithology.

Tori.⁴ VII, No. 32. December, 1931. [In Japanese and English.]

On Two New Forms of Micronesian Birds. By N. Taka-Tsukasa and Y. Yamashina.—*Aplonis opaca ponapensis* (p. 109) Ponape, Caroline Islands; *Erythrura trichroa clara* (p. 110) Ruk Island.

A New Form of Jay from Sado Island. By N. Taka-Tsukasa.—*Garrulus glandarius tokugawae* (p. 110).

A New Form of *Dryobates kizuki* from Korea. By Y. Yamashina.—*D. k. acutirostris* (p. 111).

On the Migration of Certain Birds in Tokyo and Vicinity. By N. Kuroda.

¹ Dr. Pontius Palmgren, Helsingfors, Bulevarden 17. Subscription Fmk. 50

² E. Arrigoni degli Oddi, Via Umberto N. 10, Padua, Italy. Subscription Lire 50.

³ Dr. Desiderius Navratil de Szalók, Budapest I, Budakeszi-ut 63. Subscription 10P.

⁴ Ornithological Society of Japan, Science College, Tokyo Imperial University.

OBITUARIES.

JOHN EUGENE LAW, a Life Member of the American Ornithologists' Union, died at Glendale, California, on November 14, 1931. As many of our readers know, he had suffered from serious illness for many years and yet he bravely maintained his activities in ornithology and other lines in which he was interested, resting from them temporarily only when physical condition made it impossible to carry on. By sheer will power he accomplished results of importance where others would have succumbed, not only in carrying on laboratory work and sedentary bird study but also active field work, entailing hardship and privations which in his weakened condition he was often quite unfitted to endure. Those who were associated with him, especially in the field, can best appreciate the severity of his effort, and after a summer's vacation as his guest, at a delightful camp that he and his wife had established in the Chiracahua mountains in Arizona, the writer will always admire the courage with which he persisted in following out the work which he had laid out for himself and the cheerfulness with which he gave himself to the science to which he was so passionately devoted.

Mr. Law was born in Forest City, Iowa, on August 26, 1877, the son of John and Katherine E. Law. Later he removed to Perry, in the same state and in 1894 was one of the twenty young men who organized the Iowa Ornithological Association, others of the number being Dr. Paul Bartsch, the noted malacologist, Dr. R. M. Anderson, now of the Canadian National Museum and W. A. Bryan present director of the Los Angeles Museum—all three, like Law, becoming in time Members of the A. O. U. The next year he was chosen secretary of the Society and contributed notes to 'The Iowa Ornithologist', a small journal which it published for several years.

The family removing to California a few years later, he studied in the Law School of Stanford University and after graduation, in 1900, entered a bank at Pomona. Later he joined his father in the banking business at Hollywood where he served as cashier of the First National Bank from 1903 to 1911 and as president, both of this bank and of the Hollywood Savings Bank from 1911 to 1914, when he resigned on account of failing health and his long cherished desire to devote himself entirely to ornithology.

Law had joined the Cooper Ornithological Club in 1900 and at once became active in its behalf, managing in conjunction with Mr. Lee Chambers, the finances of the organization, preparing lists of members, and performing other routine matters which are very necessary to success but regarded as drudgery by most of those who come in contact with them. Much of the organization and policies of the Club apparently originated in his mind, as he was always planning methods for improving everything in which he was engaged, whether it were egg-blowing apparatus, bird traps or conduct of organizations.

He became president of the southern division of the Club and also of the Board of Governors and was most active on the occasion of the meeting of the A. O. U. in San Francisco, in 1915, in entertaining and caring for the eastern visitors during their short stay in Los Angeles, as well as at the meeting, which he attended, as he did also that at Philadelphia, in the following year.

With the development of bird banding, Law became intensely interested in this branch of bird study and edited a bird banding column in 'The Condor,' while he was responsible for organizing the Western Bird Banding Association, serving as president of this society, as also of the Los Angeles Bird Banding Chapter. Besides collecting birds, mammals and birds' eggs in southern California, he made several trips to the Chiracahua Mountains in Arizona and the Mogollons in New Mexico, part of the time in the interests of the Museum of Vertebrate Zoology at Berkeley, where he spent one or two winters. He was always a tireless collector and a most careful recorder of field notes which, like everything else he did, were always kept on a definite system.

Law naturally amassed a great amount of information and original data far in excess of his publications. What he did publish, however, was always worth while and was carefully thought out before being put in type. Most of his papers appeared in 'The Condor' and many of them were distinctly original either in subject matter or manner of treatment: notably those dealing with 'The Role of the Runt'; 'Spring Molt in *Zonotrichia*'; 'The Down Tree Progress of the Nuthatch'; 'The Function of the Oil Gland' etc. One of his last investigations was a study of feathers and molt by mounting the individual feathers on large cards in their natural relative position so that individuals in various seasons, or of different ages, could be readily compared and the differences brought out in a very striking manner.

Mr. Law became an Associate of the Union in 1907 and was elected a Member in 1916. He was deeply interested in its activities but being so far removed from the ornithological centers of the East, where most of the meetings were held, he was unable to take the active part in its work that he would otherwise doubtless have done. Although he worked in a quiet way and was known chiefly to those closely associated with him, American ornithology owes not a little to the energy and devotion of Eugene Law.

He is survived by his mother and his widow, the former Miss Laura Beatty, who accompanied him on most of his field trips and was a most helpful associate, always sympathetic with his interests and aims.—W. S.

JULIUS VON MADARÁSZ, a Corresponding Fellow of the American Ornithologists' Union since 1884, died at Budapest, Hungary, Dec. 29, 1831, at the age of 73 years. Born on May 3, 1858, in the Hungarian capital, the son of an old aristocratic family, he studied natural history in the university of his native city, where he obtained the degree of Ph.D. in 1881, his dissertation being an essay on the anatomy of the European Titinica.

Even before completing his studies, von Madarász, in 1880, joined the scientific staff of the Hungarian National Museum and remained in charge of the Bird Department for the next thirty-five years. When assuming his duties, he found there but a small collection of native birds, and it speaks volumes for his zeal and curatorial ability that, on his retirement, the Museum could boast of some 70,000 bird-skins from all parts of the world. Unlike his predecessors, Madarász did not confine his studies to the ornithology of his own country, but paid considerable attention to foreign regions. His ornithological contributions, numbering 141 titles,¹ cover a wide field, relating, as they do, to taxonomy, faunal reports, anatomy, life-history, and descriptions of new species. Most noteworthy are "Magyarország Madarai," a monograph of the birds of Hungary, published in parts from 1899 to 1903; "The Birds of Cyprus," 1904; and several memoirs on the ornithology of New Guinea, based on the collections of S. Fenichel and L. Biró. He also published numerous papers on birds from eastern Africa, central Asia, Ceylon, and tropical America. Altogether, Madarász is responsible for the description of 121 new birds, the types of which are all in the Hungarian National Museum, including several striking novelties, such as *Pucrasia meyeri*, *Tetraophasis szechényii*, *Pitta reichenowi*, *Leucosticte margaritacea*, *Otus cyrius*, and *Grallaricula rara*. He was also the first to distinguish the Yellow-sided Vireo from the Tres Marias Islands, *V. flavo-viridis forsteri*. Enthusiasm for his favorite science induced him to found the "Zeitschrift für die gesammte Ornithologie," which was issued at his own expense and at considerable personal sacrifice in four volumes from 1884 to 1888. Madarász was one of the principal organizers of the 2nd International Ornithological Congress at Budapest in 1891 and took an active part in the exhibitions and excursions arranged on that occasion.

While primarily a cabinet ornithologist, he was a good field-man, too, and besides numerous trips to various parts of Hungary, undertook two voyages to the tropics, in 1896 to Ceylon and in 1910 to the Sudan, returning with rich collections. Madarász was also an excellent draftsman and a bird-artist of no mean talent, and after his retirement from the Museum in 1915 he devoted most of his time to painting. Personally he was of a kindly disposition, ever ready to help people in distress and to encourage young ornithologists. His good nature endeared him to whoever came in contact with him and facilitated his efforts to raise funds for the acquisition of material or for financing expeditions in behalf of the National Museum. The fine bird collection thus built up at Budapest through his unselfish interest will serve to perpetuate his memory in the annals of Hungarian science, and his charming personality will long be remembered by his many friends, both at home and in foreign lands. Madarász was one of the first Corresponding Fellows elected by the

¹A complete bibliography of his writings from his own pen may be found in "Kócsag," vol. 4, 1931, pp. 81-85.

American Ornithologists' Union. He was also a Foreign Member of the British Ornithologists' Union, and several species of birds from Africa and New Guinea have been named for him in recognition of his services to ornithology.—C. E. HELLMAYR.

ALBERT HARTSON BOIES, a former associate of the American Ornithologists' Union, 1890-96, was born in Hudson, Mich., Feb. 22, 1844. Major Boies was the son of Curtis Hooker Boies and Sarah Jones Boies who came from Stanford, Massachusetts and settled in Hudson in 1838.

From 1861 to 1864, he was a member of the famous Old 4th Michigan Infantry that took part in forty-five battles. During the war, Major Boies took part in twenty-one battles and was wounded four times. At Malvern Hill, he was shot below the heart and left for dead but regained consciousness and walked twelve miles to Harrison's Landing. At Gettysburg, he was wounded and taken prisoner by the Twenty-fourth Georgia troops but escaped.

During the Spanish-American War, he again enlisted and was commissioned Major of the Blue and Gray Legion.

Upon the entrance of the United States into the World War, Major Boies again enlisted and was assigned to recruit duty. Thus he served in all three wars, a record achieved by only two other men.

Major Boies was a keen naturalist and devoted the spare moments of his busy life to the pursuit of his hobby. In 1868 he collected in South America. In 1873 he again collected in South America. In 1874 he collected in Arkansas. For some twenty years he was an inspector of government works, the duties taking him to all parts of the United States giving him many opportunities for the pursuit of his studies.

He published a number of ornithological papers. The most important was his "Catalogue of the Birds Ascertained to occur in Southern Michigan etc." privately published in 1875. "The Birds of Neebish Island, St. Mary's River" appeared in the Bulletin of the Michigan Club, Vol. I, pp. 17-20, 27-29. This paper listed 149 species and was based on observations while inspector of the St. Mary's River Channel, 1892-4.

In 1879 he married Elisabeth Schuyler Jones who died in 1912. Major Boies died, at his home in Hudson, December 20, 1930. Burial was in the Maple Grove Cemetery, Hudson, Michigan.—LEONARD W. WING.

DANIEL CHESTER FRENCH, the well-known sculptor and an Associate of the American Ornithologists' Union since 1922, died at Stockbridge, Mass., Oct. 7, 1931, at the advanced age of 81. He was born at Exeter, N. H., April 20, 1850, the son of Henry Flagg and Anne Richardson French. After spending a year at the Massachusetts Institute of Technology he studied under Dr. William Rimmer in Boston and Thomas Ball in Florence, and later received honorary degrees of A.M. from Dartmouth in 1888, Yale in 1913, Harvard in 1917, and Litt.D. from Columbia in 1913.

He maintained studios in Washington, D. C., 1876-78, in Boston and Concord 1878-87, and in New York in subsequent years. He executed a number of statues and works of art which received wide approbation, among the most celebrated being the 'Minute Man of Concord,' a bronze statue at Concord, Mass., unveiled the day before his 25th birthday; and the marble statues of Lincoln in Lincoln, Nebr., and in the Lincoln Memorial at Washington, D. C. He also executed statues of Rufus Choate in the court house at Boston, John Harvard at Cambridge, Mass., Thomas Starr King at San Francisco, Calif., George F. Hoar, at Worcester, Mass., Governor James Oglethorpe at Savannah, Ga., Lewis Cass in the Capitol, and Herodotus and 'History' in the Library of Congress at Washington. The bronze doors of the Boston Public Library, the groups of Europe, Asia, Africa, and America in front of the New York Customs House, and the Dupont memorial fountain in Washington were also designed by him. He was a member of the National Commission of Fine Arts from 1910 to 1915, a trustee of the Metropolitan Museum of Art, a fellow of the American Academy of Arts and Sciences, a member of the National Sculpture Society, the Architectural League, the American Academy of Arts and Letters, and a chevalier of the Legion of Honor of France.

Daniel Chester French's contribution to ornithology was a peculiar one and due chiefly to his personal interest in William Brewster. He and Brewster were contemporaries and friends. When the Brewster memorial fund was established in 1919 French not only took a deep interest in it and contributed the design for the Brewster Medal but shortly after became an Associate of the Union. The recurrent biennial awards of this medal will serve to keep before the public the memory of these two friends who gained fame in such widely different fields.—T. S. P.

CHARLES ELIOT UNDERDOWN, a Life Associate of the A. O. U. since 1923 died, after a short illness, of pneumonia, on February 21, 1932, at the Harvey Memorial Hospital, at Harvey, Ill.

Mr. Underdown had been since early boyhood deeply interested in ornithology. He was born in Philadelphia, October 21, 1907, and attended the Oak Lane Country Day School and later the University of Pennsylvania. He joined the Delaware Valley Ornithological Club in 1923 and at once became actively interested in the meetings and the field trips, seldom missing any of the club activities, and adding much to the pleasure of his associates by his cheerful, generous disposition.

For two years he served as an aid in the ornithological department of the Academy of Natural Sciences of Philadelphia, where he rendered valuable service in cataloguing and arranging the study collections. About a year ago he became an assistant in the ornithological department of Field Museum, Chicago, where he was making excellent progress in his chosen field. He had published a number of notes in 'The Auk' and 'Cas-

sinia' and had ready for the press a paper on the genus *Chlorospingus*, at the time of his death.

Mr. Underdown took the greatest interest in the annual meetings of the Union attending those in Philadelphia, Charleston and Detroit where he made a wide acquaintance among the younger generation of ornithologists as well as the older members, whose advice he always treasured. In his untimely death, almost at the beginning of his career, we lose a bird student who gave promise of excellent work in the field of technical ornithology. His funeral services took place in Germantown, Philadelphia, and he rests in South Laurel Hill Cemetery.

He is survived by his parents, his father, Henry T. Underdown, being also an Associate of the Union and Treasurer of the Delaware Valley Ornithological Club.—W. S.

ARTHUR THOMAS GOODSON, an assistant in the Zoological Museum at Tring, died at Tring, England, Oct. 5, 1931, at the age of 58. He was the son of James and Fanny Goodson and was born at Tring, Sept. 11, 1873.

He joined the staff of the Museum June 1, 1893, and during his long connection with the institution acquired a wide knowledge of birds and was exceedingly helpful to those who had occasion to consult the collection. His duties included labeling and determining collections as they were received, attending to the loan of specimens, and assisting the ornithologist in charge. It is said that much of the credit for the order and arrangement of the collection was due to him. He had a fund of reliable and accurate information regarding birds, excellent judgment, and in working over new material frequently found differences overlooked by other ornithologists. Unfortunately he published comparatively little, but among the more important of his papers were 'Notes and Descriptions of South American Birds' and 'Further Notes on South American Birds,' 1917, and 'Notes on Pigeons,' 1918, all published with Dr. Ernst Hartert in 'Novitates Zoologicae.'

Goodson's work is commemorated in the names of several birds—*arthuri* in *Pachycephala pectoralis arthuri* and *Pitohui cristatus arthuri*, and *goodsoni* as a subspecific name in the genera *Dendrophassa*, *Edolisoma*, *Hypotaenidea*, *Loriis*, *Macropygia*, *Pachycephala*, *Pinarolestes*, and *Sericornis*.—T. S. P.

Stolzmann's Full Name. Since the publication of the notice of Stolzmann in 'The Auk' for January 1932, pp. 145–146, a letter has come to light, written about a year before his death. This letter, in French, contains the statement: "My full name is Jean Stanislas Stolzmann. I was born at Warsaw, Poland, November 19, 1854."—T. S. P.

NOTES AND NEWS.

THE next annual meeting of the American Ornithologists' Union will be held in Quebec, Oct. 17-20, 1932. The headquarters will be at the Chateau Frontenac and the public sessions, beginning on Tuesday, will be held in Laval University. The local Committee on Arrangements has already made preparations for a meeting which promises to be one of the most notable ever held by the Union. One of the sessions probably on Wednesday afternoon will be conducted in French for the benefit of French Canadian naturalists and visitors. A regular session in English will be arranged at the same time for the benefit of those who are not familiar with French. The annual dinner will be held on Wednesday evening and the excursion on Friday, Oct. 21, will be made by motor bus to Cap Tourmente, about 35 miles from Quebec, to see flocks of the Greater Snow Goose. Arrangements will also be made for those who arrive before the meeting to visit points of interest in and about Quebec.

Titles of papers for the program should be sent to the Secretary not later than Sept. 15, and each title should be accompanied by a brief abstract of not more than 200 words outlining the principal points in the paper. It is possible that arrangements may be made to issue these abstracts in French, and ample time should be allowed for translation and publication of the abstracts.

The Chairman of the Local Committee is Reginald Meredith, who is also Secretary of the Provancher Society of Natural History, 46 Dalhousie Street, Quebec, from whom further details in regard to arrangements may be obtained. His associates are Adrian Falardeau, L. A. Richard, G. S. Ahern, D. A. Déry, G. A. Langelier and Harrison F. Lewis.

THE practice of charging part of the expenses of the last issue of 'The Auk' to the next year, coupled with decrease in income, has produced a condition which necessitated a "balancing of the budget" this year, in order to get back to normal conditions. It has therefore been necessary, much to our regret, to omit, for 1932, the list of members usually published in the April number which has grown to be an expensive item, and to somewhat reduce the size of the number. Thanks to the generosity of authors of certain papers in this and the following numbers, who have paid for the printing of their contributions, the reduction will not be as great as was feared. The situation which the Publication Committee has to face, at present, and the continual demand for the publication of additional papers, for which we lack funds, emphasizes once more the need of an endowment as voiced by President Grinnell in the January 'Auk' (p. 142). Owing to the constantly increasing number of publications on birds we shall from now on review at length only the more outstanding books and papers and comment on others in the list entitled "Shorter Papers," with which has been

combined the list formerly appearing as "Ornithological Papers in Other Journals." The officers of the Union which are usually printed at the beginning of the list of members will be found on the third page of the cover, while the Council and most of the Committees remain the same as last year with the exception of those on 'Arrangements for the Annual Meeting' and on 'Classification and Nomenclature.' The former is given above in connection with the announcement of the Quebec Meeting, while Dr. Alexander Wetmore is chairman of the latter with power to select his associates. Mr. W. E. Saunders has also replaced Mr. S. G. Jewett on the Committee on 'Bird Protection.'

IT IS WITH regret that we again refer to the poisoning of wild life in the western states, which was discussed in the July 1931 issue of 'The Auk,' but in all fairness, we feel that attention should be called to a pamphlet on 'The California Ground Squirrel Program' by Eugene S. Kellogg, County Agriculture Commissioner for Santa Barbara County, in which it is stated that the article by Dr. Linsdale in 'The Condor' and Dr. Grinnell's editorial quoted by us, "is [= are] replete with misleading information and contains [contain] very few facts concerning the use of thallium." We should, of course, have given the pamphlet full notice even without the request of the Chief of the Biological Survey, for whom we have the highest regard, that it be given its just due of publicity in 'The Auk.' The Survey, it is stated, coöperated in gathering the data contained in the report, as it has done in the poison work.

The pamphlet has apparently been given wide circulation among the members of the A. O. U. and by comparing it with the Linsdale article they can form their own opinion of the diversity of statements.

Mr. Kellogg in the first place emphasizes the necessity for rodent *control* upon which we think everyone is agreed. Then there follow excerpts from "signed statements" of 258 persons, all apparently representatives of county or state agricultural commissions or of the Biological Survey, regarding the value of rodent control, diminution of the squirrels, and the effect of poison on other forms of life. The summary of these replies is mainly confined to the comparative merits of thallium and strichnine in poisoning work and several of the cases cited by Dr. Linsdale are stated to be due to the latter and not to thallium. On the merits of thallium, however, there seems to be much difference of opinion. On page 11 we read that 227 of the 258 who returned reports consider thallium from 50% to 500% superior to strichnine while the author states on p. 5 that thallium is, "must [= much] less poisonous weight for weight, than strichnine" yet he further explains that it is used as a "supplementary material" by the use of which "the sooner will we accomplish our peak effort in ground squirrel control and get on to a basis of minimum annual poison exposure."

As to the poisoning of birds or mammals other than ground squirrels it is stated that "the ability of those responding, to recall having seen specific numbers was taxed." "Out of the 258 reporting, 142 found absolutely no

birds or animals dead other than squirrels." One man estimated "1000 dead doves from thallium over the last six years" but the author claims that this man only used thallium for one year and "this loss could not have been from thallium. Doves are rarely killed by thallium grain." The author concludes that "while it is undoubtedly true that occasional birds are poisoned there is no evidence that there has been any serious loss."

Much space is also given to explaining certain deaths alleged to be due to poison and to contradicting some of the statements made in the 'Condor' articles but as a matter of fact few of Dr. Linsdale's figures are disproved. Indeed this would seem from the nature of the case to be difficult no matter how severely the memory of the reporters was "taxed." Furthermore, land owners suffering from squirrels or agents engaged in their destruction with but little interest in birds will differ materially in their conclusions, from ornithologists whose main interest is the conservation of wild life; what one group sees the other will in all probability miss. However both sides of the controversy have published their findings and our readers may compare them.

As a matter of fact our main contention is not affected by this pamphlet nor does it make any difference whether strychnine or thallium is the poison used. We still feel that it is most unfortunate that the Biological Survey, originally dedicated to conservation, has to take such a prominent part in this wretched business of poisoning which should be left to the states in which control is necessary. We are beginning to fear, however, that the Survey is really not a free agent in the matter, and, in order to maintain its splendid work in other lines, is compelled to carry on this poison campaign. Dr. C. Hart Merriam, organizer and former chief of the Survey makes some pertinent remarks in a letter published with his permission in the 'Journal of Mammalogy' for February last, p. 97. He says: "The difference between the Biological Survey men and most Naturalists outside the Survey strikes me as one of *degree*. Most of us believe that in certain places and at certain times it is highly desirable to destroy harmful animals, but when it comes to employing upward of *three hundred men* to distribute poisons broadcast over vast areas, I must confess that my sympathy is with the animals. . . As I look at the matter, the fight is between the stock men, who have *enormous* influence in Congress, and the rest of us, who have *no influence at all*."

"Just why the government should force *all* the states to pay the cost of poisoning alleged injurious animals in *one third of the States* is beyond my comprehension.

"I have long felt that this is a *State affair* and that such trapping and poisoning as may be necessary should be paid for by the *States concerned* and not by the United States as a whole."

If the status of the matter is as stated by Dr. Merriam, and surely no one is better qualified to know, our sympathy goes out to the officers and staff of the Survey whose splendid work in other lines has always gained the sin-

cere admiration of the ornithologists of America. Dr. Merriam's last paragraphs are exactly in accord with our contention as stated in the July 'Auk' and it would seem that the only method of approach is to take the matter up with our congressmen and try to relieve the Survey of a burden which must be intolerable to sincere conservationists such as its staff have always been.

Ornithologists and nature lovers will never endorse 'control' that is practically synonymous with extermination, which seems to be what the stock men and ranchers of the West desire but opposition to such practices does not, under the circumstances, mean opposition to our friends on the Biological Survey.

ON FEBRUARY 9, 1932, Dr. J. B. Steere, Professor of Zoology in the University of Michigan from 1879 to 1893, celebrated his ninetieth birthday, being the second American ornithologist to reach that advanced age; Mr. Otto Widmann who was ninety on June 15 last, was the other. Prof. Steere's name will ever be associated with the ornithology of the Philippines. His explorations of the islands in 1874 yielded a number of forms hitherto unknown from there including about forty new to science which were described by Bowdler Sharpe while Dr. Steere himself described fifty-three more novelties obtained on the Steere expedition of 1887-88, which obtained a series of 5000 specimens from seventeen different islands. Dr. Steere's most important paper was his 'Distribution of Land Birds in the Philippines' which was read at the meeting of the American Association for the Advancement of Science at Indianapolis in 1890 and late published in 'The Auk' (1894, pp. 231-240).

We feel that all American ornithologists will join us in congratulating Dr. Steere upon the occasion of his notable birthday.

DURING THE latter part of 1931 an effort was made to save the Audubon residence known as "Minniesland" situated on Riverside Drive between 155th and 156th Sts., New York City, from destruction by a committee of interested persons but failing to secure the funds necessary for its removal the attempt was abandoned. At the last moment, however, when part of the building (fortunately not the original portion) was actually being demolished, Mr. Harold K. Decker of 1848 Washington Ave., New York, arranged to acquire the building from the wreckers and obtain their co-operation in its removal to a new site on city-owned property at 161st St. Those in charge of the matter have organized as The Audubon Home, Inc., with many well known ornithologists on their Board and with the endorsement of the National Association of Audubon Societies, the American Museum, etc. They now appeal for financial assistance to carry out the plans and subscriptions may be sent to the first named society at 1775 Broadway, New York City.

THE PROPOSED Tropical Everglades National Park has been enthusiastically endorsed by the trustees of the National Parks Association and

everyone interested in preserving this, the only bit of tropical fauna and flora within the boundaries of the United States, should support the undertaking by writing their congressmen and senators to support bill S. 475 and H. 5063. The importance of prompt action cannot be too strongly urged.

THE WELL-KNOWN Jack Miner Sanctuary has been incorporated under the title of "The Jack Miner Migratory Bird Foundation, Inc.," in accordance with the laws of Michigan, with Jack Miner, Laona Miner, and Manly Forest Miner as Trustees and the Union Guardian Trust Co., of Detroit, Mich., depository of the funds.

The object of the corporation is to develop and insure the permanence of the work hitherto carried on at the sanctuary at Kingsville, Ontario, in feeding, protecting, and banding Canada Geese and other birds. The actual work of maintaining the sanctuary will be continued by the Trustees with the assistance of an Advisory Board of 75 members.

An attractive prospectus has been issued containing, in addition to general information, a list of all the places arranged, by States and Provinces, where 914 of the 4,400 Canada Geese banded at Kingsville, between 1915 and Jan. 1, 1931, have been reported. Copies of the prospectus and information regarding the Foundation may be obtained from the Secretary, Manly F. Miner, Kingsville, Ontario.

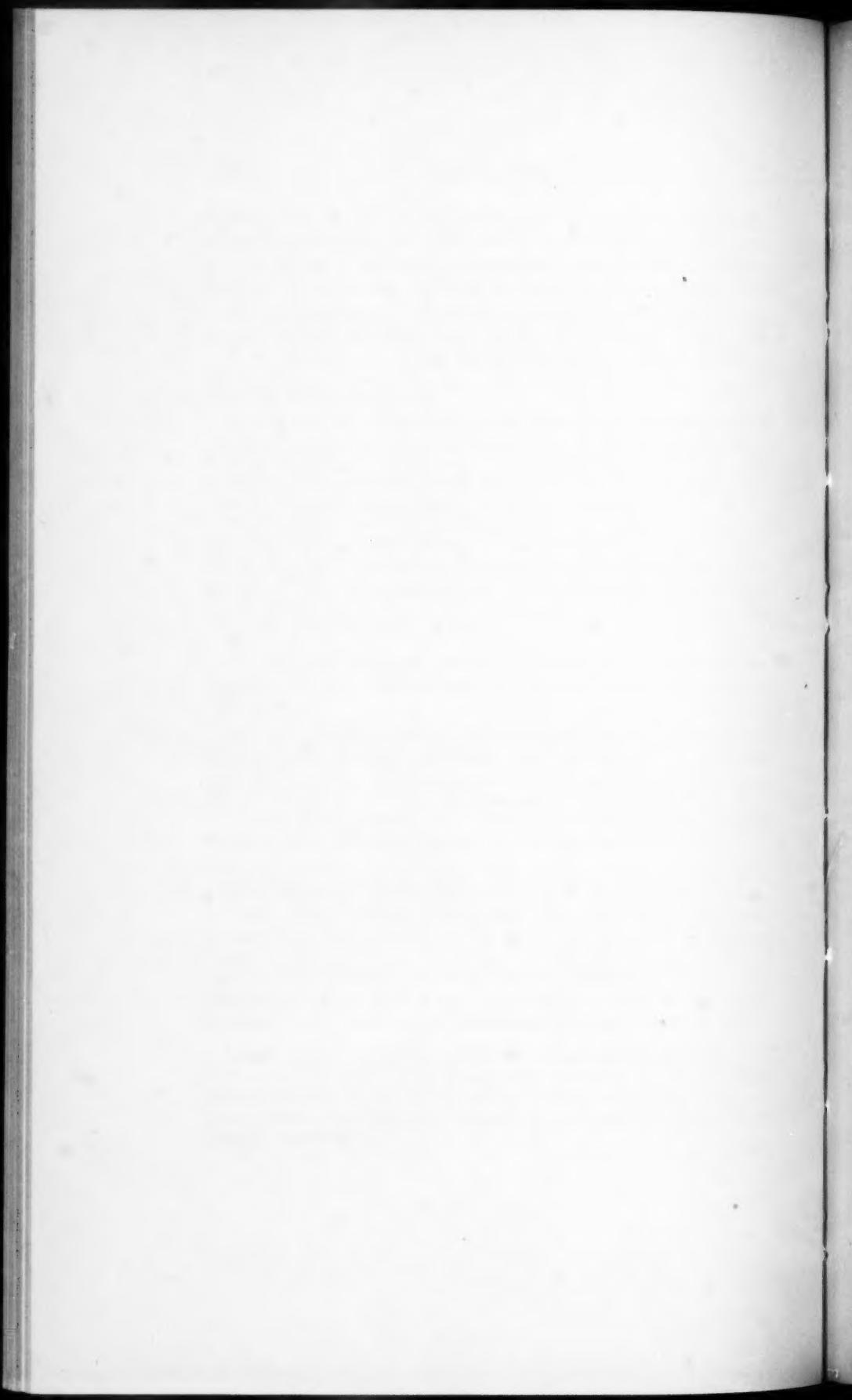
MR. ERNEST G. HOLT, well known for his ornithological work, has been appointed Director of Sanctuaries by the National Association of Audubon Societies.

THE TENTH annual meeting of the Inland Bird Banding Association was held in Chicago on November 27-28, 1931. An interesting program was presented, some of the papers appearing in the 'Inland Bird Banding News,' (a mimeographed journal issued by the society) for December, 1931. W. I. Lyon was elected president, M. J. Magee, treasurer and Edw. R. Ford, treasurer; with S. Prentiss Baldwin, as honorary president.

THE FORTY-THIRD annual meeting of the Delaware Valley Ornithological Club was held at the Academy of Natural Sciences, Philadelphia on January 7, 1932. Officers for the ensuing year are: President, Dr. Samuel C. Palmer; Vice-president, Julian K. Potter; Treasurer, Henry T. Underdown; Secretary, John A. Gillespie, Glenolden, Pa. Since the meeting an issue of the Club's publication 'Cassinia' has been published covering the years 1929 and 1930, and making the twenty-eighth number of this journal including the four 'Abstracts of Proceedings,' 1892, 1898, 1900 and 1901.

A LIST of libraries, public and private, which need some of the rare, early volumes of 'The Auk' is maintained by the Union. Persons who have extra copies of any of the first six volumes, 1884 to 1889, or any numbers of these volumes which they wish to dispose of, are requested to communicate with the Secretary.





THE AUK

A Quarterly Journal of Ornithology

ORGAN OF THE AMERICAN ORNITHOLOGISTS' UNION

Edited by Dr. Witmer Stone

ACADEMY OF NATURAL SCIENCES, LOGAN SQUARE

PHILADELPHIA, PA.

To whom all articles and communications intended for publication and all books and publications for review should be sent.

Manuscripts for leading articles must await their turn for publication if others are already on file, but they must be in the editor's hands at least six weeks before the date of issue of the number for which they are intended, and manuscripts for 'General Notes,' 'Recent Literature,' etc., not later than the first of the month preceding the date of issue of the number in which it is desired they shall appear.

Twenty-five copies of leading articles are furnished to authors free of charge. Additional copies or reprints from 'General Notes,' 'Correspondence,' etc., must be ordered from the editor.

THE OFFICE OF PUBLICATION

8 WEST KING STREET, LANCASTER, PA.

Subscriptions may also be sent to W. L. McAtee, Business Manager, 200 Cedar St., Cherrydale, Va. Foreign Subscribers may secure 'The Auk' through H. F. and G. Witherby, 326 High Holborn, London, W. C. Subscription, \$4.00 a year. Single numbers, one dollar.

Free to Honorary Fellows, and to Fellows, Members, and Associates of the A. O. U., not in arrears for dues.

OFFICERS OF THE AMERICAN ORNITHOLOGISTS' UNION

President: JOSEPH GRINNELL, Museum of Vertebrate Zoology, Univ. of Calif., Berkeley, Calif.

Vice Presidents: JAMES H. FLEMING, 267 Rusholme Road, Toronto, Canada. ARTHUR CLEVELAND BENT, Taunton, Mass.

Secretary: T. S. PALMER, 1939 Biltmore St., Washington, D. C.

Treasurer: W. L. MCATEE, 200 Cedar St., Cherrydale, Va.

AVAILABLE PUBLICATIONS OF THE

American Ornithologists' Union

FOR SALE AT THE FOLLOWING PRICES.

Address AMERICAN ORNITHOLOGISTS' UNION

Care of W. L. McAtee, 200 Cedar St.,

Cherrydale, Va.

The Auk. No complete sets on hand. Volumes VII–XLVIII (except Vol. XVIII, 1901, Vol. XXI, 1904, Vol. XXII, 1905, Vol. XXV, 1908, Vol. XXVIII, 1911, Vol. XLI, 1924, Vol. XLV, 1928, Vol. XLVI, 1929, Vol. XLVII, 1930) \$4.00 each; single numbers \$1.00 each, those for January and April 1901, July 1904, July 1905, April and July 1908, July 1911, July and October 1924, January 1928, January and July 1929, and January 1930, not available.

Index to The Auk. (Vols. I–XVII, 1884–1900) and Bulletin of the Nuttall Ornithological Club (Vols. I–VIII, 1876–1883), 8vo. pp. vii + 426, 1908. Paper, \$3.25.

Index to The Auk. (Vols. XVIII–XXVII, 1901–1910), 8vo. pp. xviii + 250. 1915. Paper, \$2.00.

Index to The Auk. (Vols. XXVIII–XXXVII, 1911–1920), 8vo. pp. xviii + 339. 1929. Cloth \$5.00. Paper \$4.00.

Check List of North American Birds. Fourth Edition (latest), entirely revised, 1931. Cloth, 8vo. pp. xix + 526. \$4.00.

Check List of North American Birds. Second Edition, revised, 1895. Cloth, 8vo. pp. xi + 372. \$1.15.

Code of Nomenclature. Revised Edition, 1908. Paper, 8vo. pp. lxxxv. 50 cents.
Original edition. 1892. Paper, 8vo. pp. iv + 72. 25 cents.

A. O. U. Official Badge. An attractive gold and blue enamel pin, with Auk design, for use at meetings or on other occasions. Post-paid, 50 cents.